

School of Nursing and Midwifery

**Factors Influencing the Quality of Nursing Care in an Intensive
Care Unit in Saudi Arabia**

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Doctor of Philosophy
of
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DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university

Signed:

Date:.....

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ABSTRACT

Quality care in intensive care units is expected by patients and is mandatory for nurses and other health professionals to provide. In Saudi Arabia, the demand for intensive care units (ICUs) is growing rapidly, partly due to the high levels of road trauma and a population increase. In response to these issues, the government has increased the number of ICU beds in some public tertiary regional hospitals. A corresponding increase in patients and a shortage of specialized nurses has major implications for nurses' ability to provide quality care. In the Western world there is comprehensive literature related to research and factors that influence nursing care. To date, however, no such study has been conducted in an ICU in Saudi Arabia. The purpose of this study was, therefore, to explore and describe factors that influence nursing care in a Saudi Arabian ICU. Additionally, since clinical governance has been described as a structured system for promoting quality care and health service planning, a further aim was to describe the findings within this framework.

This study employed a single exploratory descriptive case study using a qualitative approach. Data were collected from various sources with thematic analysis being used to establish themes that emerged from the data. The proposition taken in this case study was that multiple factors influence the quality care registered nurses provide in an ICU setting. It was an assumption that these factors would be both internal and external to the ICU. Findings from this study concurred with this assumption uncovering multiple, complex and interrelated factors that influenced the quality of nursing care in the ICU. It also uncovered factors which were located in the conduit between the internal and external environment: namely intermediate factors. The environment was seen as: direct factors that immediately affected nurses and their ability to provide quality care; intermediate factors were those that encapsulated regular, but intermittent elements; and indirect factors related to elements external to the ICU. Within each of these categories themes and sub-themes emerged. Themes in the direct factors were **Continuance:** with sub themes of *Shift work arrangement, Workload, Collegiality, and Unit management.* **Burden of responsibility:** with sub themes of *Educational preparation and Availability of*

Resources. **Proximity**: emerged as a theme which related to being close contact with patients.

Themes in the intermediate factors were: **Relationships with superiors**, as well as **Policies and protocols**. Themes in the indirect factors were: **Leadership and bureaucracy**, **Quality management**, and **Ongoing education**. Together these factors had a profound influence on the quality of nursing care in the ICU. Some had distinctive characteristics whilst others overlapped and were interrelated clarifying and explaining aspects of the complex open system in which nursing care was provided. It is anticipated that these findings will not only have relevance to the ICU in the setting, but also to other hospitals in the Saudi Arabian health care system.

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Notation used in the interview transcriptions

All interviews were conducted in English and transcribed verbatim. To provide some clarity, however, the transcripts have been edited. In editing, some words have been omitted or inserted, but where this has occurred, every effort has been made to preserve the context and meaning of the original text. Sounds uttered by the researcher, repetition and hesitation have been omitted, unless they added meaning to the direct quotation.

The following notations are used in direct participant quotations

Each participant is referred to by their job classification. This allowed for anonymity. The researcher retained use of his name. Text written in the first person refers to the researcher.

...	Represents a pause by the speaker. Two or more groups of dots denote a proportionally longer pause.
[...]	Represents a portion of text that has been edited to improve the meaning or remove immaterial text.

Abbreviations and terms used in this study

ACSQHC	Australian Commission on Safety and Quality in Health Care
AHA	Australian Hospital Association
AIHW	Australian Institute of Health and Welfare
AHPRA	Australian Health Practitioners Regulation Agency
ANMC	Australian Nursing and Midwifery Council
AQC	Australian Quality Council
ASQC	Australian Safety and Quality Council
CAS	Complex adaptive system
CBAHI	Central Board for Accreditation of Health Institutions
CEO	Chief Executive Officer
COPD	Chronic Obstructive Pulmonary Disease
CQI	Continuous quality improvement
DH	Department of Health (UK)
ECG	Electrocardiograph
EQuIP	Evaluation and Quality Improvement Program
GDP	Gross Domestic Product
HRM	Human resource management
ICU	Intensive Care Unit
MOH	Ministry of Health (Saudi Arabia)
OSQHCWA	Office of Safety and Quality in Health Care in Western Australia
PHCC	Primary Health Care Centers
QA	Quality Assurance
QI	Quality Improvement
RANF	Royal Australian Nursing Federation
WACSQ	Western Australia Council for Safety and Quality in Health
WHO	World Health Organization
TQM	Total Quality Management

CHAPTER ONE

Introduction to the study

Introduction

This study was set in Saudi Arabia and involves the exploration of the factors which affect nurses' ability to provide quality care in an intensive care setting. Increasingly, the Saudi Arabian health care environment is becoming more sophisticated and highly technical with a rapidly expanding number of ICUs. With this rapid expansion of the public tertiary regional hospitals, there is an increased demand for appropriately skilled nurses to provide continuous quality care. This introductory chapter provides the foundation for the study and highlights the layout of future chapters.

Professional highly specialised nurses are central to the quality of care delivered in an intensive care environment. Their role includes caring for patients with complex and multiple needs and where clinical errors can be life threatening (Rice & Nelson, 2005). Nurses are the largest professional group working permanently in intensive care units (ICU) where they play a significant role in recognising clinical risks and contributing to the improvement of patients' condition (Twibell et al., 2008).

It has been established that where the patient-to-nurse ratio is low, patient outcomes are improved (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002). In light of these findings health care systems have introduced policies to mandate nurse staffing levels. The prime purpose of this move is to assure quality of patient care. In Australia the Australian College of Critical Care Nurses has recommended a 1:1

nurse to patient ratio (Australian College of Critical Care Nurses, 2005). To achieve this ratio, however, the health care system must be capable of employing the required number of professional nurses. Not all health care systems have sufficient nursing workforce supply to meet staffing recommendations of this nature. An overview of the Saudi Arabia health care is therefore provided to introduce the context of the study.

Saudi Arabia's health care system

The health care system in Saudi Arabia was established in 1951 with the purpose of ensuring comprehensive and integrated health care for all inhabitants. The Saudi public health care system consists of 371 public hospitals and 2,037 primary health care centers (PHC) (Ministry of Health, 2009b).

Saudi Arabia is a country whose health care needs are exceeding the services available (Mufti, 2000). There are a number of reasons for this problem, some of which are common to other countries with a strong economy, but others are unique to Saudi Arabia. Statistics from the Saudi Arabia Ministry of Health (2005) indicate that the country is experiencing a rapid growth in population, which is estimated to be 2.41% per annum. This is one of the highest population growth rates in the world. Related to this growth is the age range of the population with large percentages of the current population aged either under 15 years (32.26 %) and a small percentage older than 65 years (2.79 %). The percentage of the population over 60, however, is rising and by 2020 the number will grow to 2.5 Million. These two population groups make a major demand on the health care system with the latter group in particular requiring high levels of intensive care (Ministry of Health, 2009b).

Overview of ICU needs in Saudi Arabia

The rising rate of trauma victims from road accidents has also increased the need for ICU beds (Alkuraigi, 2004; Ministry of Health, 2009b; Mufti, 2000). The Ministry of Transport's Annual Report in 2005 recorded 261,872 road accidents causing

30,439 injuries and 4,293 deaths (Ministry of Transport, 2007). The accident trends have remained high with no significant changes over the last five years (see Table. 1.1).

Table: 1.1

Trauma and mortality in Saudi Arabia

Year	2000	2001	2002	2003	2004
Trauma	32361	29000	28379	28372	30439
Death	4848	4419	3913	4161	4293

Associated with the rapid growth in the country's socioeconomic status and the consequent adoption of a modern lifestyle, there has been a significant increase in the chronic health diseases common in developed countries. Major complications of chronic diseases, such as hypertension, heart disease and diabetes mellitus have contributed yet another source of patients requiring ICU care (Al-Nozha et al., 2004). Finally, there is a high rate of genetic diseases resulting from within-family marriage for example thalassemia and sickle cell anaemia, which in the acute/crisis stage may require intensive care (Al-Suleiman, Aziz G, Bagshia, El Liathi, & Homrany, 2005).

In response to the high demand for health services in general, the Saudi Arabian Government has announced an expansion of these services in all regions of the country. In particular, the Ministry of Health has planned a significant increase, albeit unspecified, in the bed capacity of ICUs. This increase is in addition to the 986 beds that were made available in 2005 in major regional hospitals (Al-Moraikhi, 2006). The increase, for example, in the capacity at the Riyadh Medical Complex alone will result in a total of 140 ICU beds (Al-Harbi, 2007). The rapid expansion of the number of ICU beds in Saudi Arabia in the public tertiary regional hospitals has resulted in an increased demand for appropriately skilled nurses to provide continuous quality care especially in the ICU.

Effectively the expansion of ICUs needs qualified staff and appropriate resources to ensure they operate and deliver a high quality standard of care. Nurses

are the mainstay of care providers in ICU settings and consequently the care they are able to provide directly affects the whole hospital organisation. Despite policies of expansion in ICU services, little attention has been given by the authorities to nurse education, the competencies they need, or their requirements to work in this specialized area of the hospital.

Rationale for the study

The motivation for this research was derived from my experience as a practicing nurse in acute care settings in major hospitals and further as a nurse educator in a regional tertiary hospital in Saudi Arabia. I frequently encountered nursing workforce issues including areas such as staff shortages, inappropriate skill mix and inadequate resources. I also observed issues that impacted on the nurses' ability to provide care in the ICU setting and potentially contributed to unsafe practices, thus, decreasing the quality of patient care. Combined, these issues may have contributed to critical clinical incidents and more importantly to morbidity and mortality rates. The media reported some of these incidences as cases of medical malpractice. Often these matters involved nurses and were a major concern for the nursing profession in terms of the delivery of quality care.

In the 2008, the Ministry of Health Annual Report stated that 1356 cases of medical malpractice had been referred to the Ministry of Health's Medical Legal Committee (Ministry of Health, 2009b). It is significant that this figure represents complaints formally reported to legal authorities by the patients themselves or relatives on their behalf and may not represent the total number of medical malpractice incidents. It is possible that, within a culture of cover up, the number and frequency of complaints could be much higher (Alforaihi, 2010). However, while there are other alleged malpractices and medical errors which are repeatedly reported in the media, the total number reported remains low. This is particularly salient for ICU nursing where the complexity of care and unpredictability of patient care needs are high and the potential for medical error exists.

Some of the highly publicized complaints about the quality of care and accountability have attracted a large amount of media attention, which not only illustrates a growing public awareness, but also indicates an increasing willingness on the part of government to intervene for patients' rights to safe and competent care. While there are limited media reports originating from ICUs the following cases are a measure of the attention being paid to critical incidents in general and are detailed in the following section. The lesson learnt from the reporting of incidents and the associated media attention applies to the ICU context.

At the Najran Maternity Hospital there was a case involving maternity nurses in the labour ward and babies given to the wrong parents. The incident occurred in September 2003, when two children born at the same time in the labour ward were mistakenly given to the wrong parents. The mistake was not discovered for four years after the births. This incident led to a complex legal case where the children were returned to their biological parents (Jo'ara, 2009; Saudi Society of Family and Community Medicine, 2010). Yet another example, in 2009, of medical malpractice was the public outcry and media reports on the death of a Saudi dentist following an operation in a reputable private hospital. The investigation found that the anaesthetist was unlicensed to practice and that the hospital violated health regulation by not adhering to standards of care (Hazazi, 2009; Ministry of Health, 2009a). The public has a right to safe competent care and, therefore, it is crucial to public trust and the reputation of health services that nurses deliver such care. Research that leads to improvement in the quality and standard of care is required.

Research on ICU nursing within Saudi Arabia context is limited with little attention being paid in the literature to the standards of care. This gap raises the following questions: What are the standards of care required of nurse in the acute care? What are the boundaries of responsibilities for nurses? What are the minimum qualifications for nurses to practice in the ICU settings? What are the resources needed for nurses to deliver high quality care? Why are there recurrent adverse outcomes for clients in ICU? How does staffing impact on the care nurses are able to deliver and provide? The paucity of literature on Saudi Arabian hospitals, together with my experience prompted me to undertake this study to investigate the answers to these questions.

Purpose of research

The purpose of this research was to explore and describe the factors that influenced the nurses' ability to provide quality care in an ICU in Saudi Arabia from within a clinical governance framework.

Objectives

The objectives addressed in this study were to:

1. describe the demographic characteristics of nurses employed in a regional Saudi Arabian ICU;
2. investigate standards of nursing care delivered in the selected ICU;
3. identify and analyse the nurses' perceptions of factors which influenced the quality of nursing care delivered in that ICU of the regional hospital.

Significance of the study

This was the first in-depth study of factors influencing the quality of nursing care within an ICU context in Saudi Arabia. The findings of this study are likely to have relevance to other ICU settings in regional Saudi Arabia and other Middle Eastern countries, where culture, conditions and issues of quality of care may be similar. This study is significant in that it revealed a fuller understanding of the needs of Saudi Arabian ICU nurses, to provide quality care. At an administrative level, it will add to knowledge for the planning, development and implementation of strategies for continuous quality improvement and, thus, contribute to better patient care outcomes.

Summary and thesis structure

In order to structure the thesis in a meaningful way, it was necessary to divide it into a number of sections and headings. This chapter provided an introduction, rationale,

purpose, objectives and significance to the study. The brief background introduced in this chapter will be expanded further in chapter two by covering the cultural, political, and economical situation in Saudi Arabian health care, thus providing the context of the study.

Chapter three provides a comprehensive review of the literature pertaining to quality. As the concept of quality means different things to different people both the general literature and health care definitions are examined. Quality has generally been a focus of the industrial world, which includes manufacturing, commerce, engineering and mining in order to improve productivity. Specifically in health care, the focus of quality has been on patient safety and clinical care. The focus of the literature review will be on nursing and the chapter will provide an expose of some of the relevant aspects to nursing care from an international viewpoint. Additionally, given that a purpose of the study was to discuss the findings from within a clinical governance perspective, the chapter will briefly outline its genesis and its implementation into the Western Australian health care system.

Chapter four describes the methodology of the study. It discusses the approach taken and details each step taken in selecting the participants, collecting and analyzing the data and finally describes how the themes emerged from the data. Within the chapter ethical consideration and the steps taken for approval of the study are described including University Ethics and the Saudi Ministry of Health (MOH).

Chapter five provides a detailed account of the findings of the study. The first part presents demographic data of ICU nurses as this provides an appreciation of the participants, their qualifications and country of origin. The chapter includes a section that illustrates responses from participants to questions posed in the interviews from which the themes emerged. The chapter also presents a conceptual model that portrays the factors that influenced the nurses in the ICU to provide quality care.

Chapter six discusses the findings of the study, and provides interpretations up to a point in order to make connections between lines of evidence with further detail in the discussion chapter. Prior to undertaking the discussion a further review

of the literature was conducted in light of the themes that emerged. Cognizant of the conceptual model developed in chapter five, the review uncovered the theory of complexity which had a striking relevance and relationship to the study findings and clinical governance. Finally, the thesis concludes in chapter seven with some salient points including recommendations and limitations of the study. The following diagram outlines the structure of the thesis (Figure 1.1).

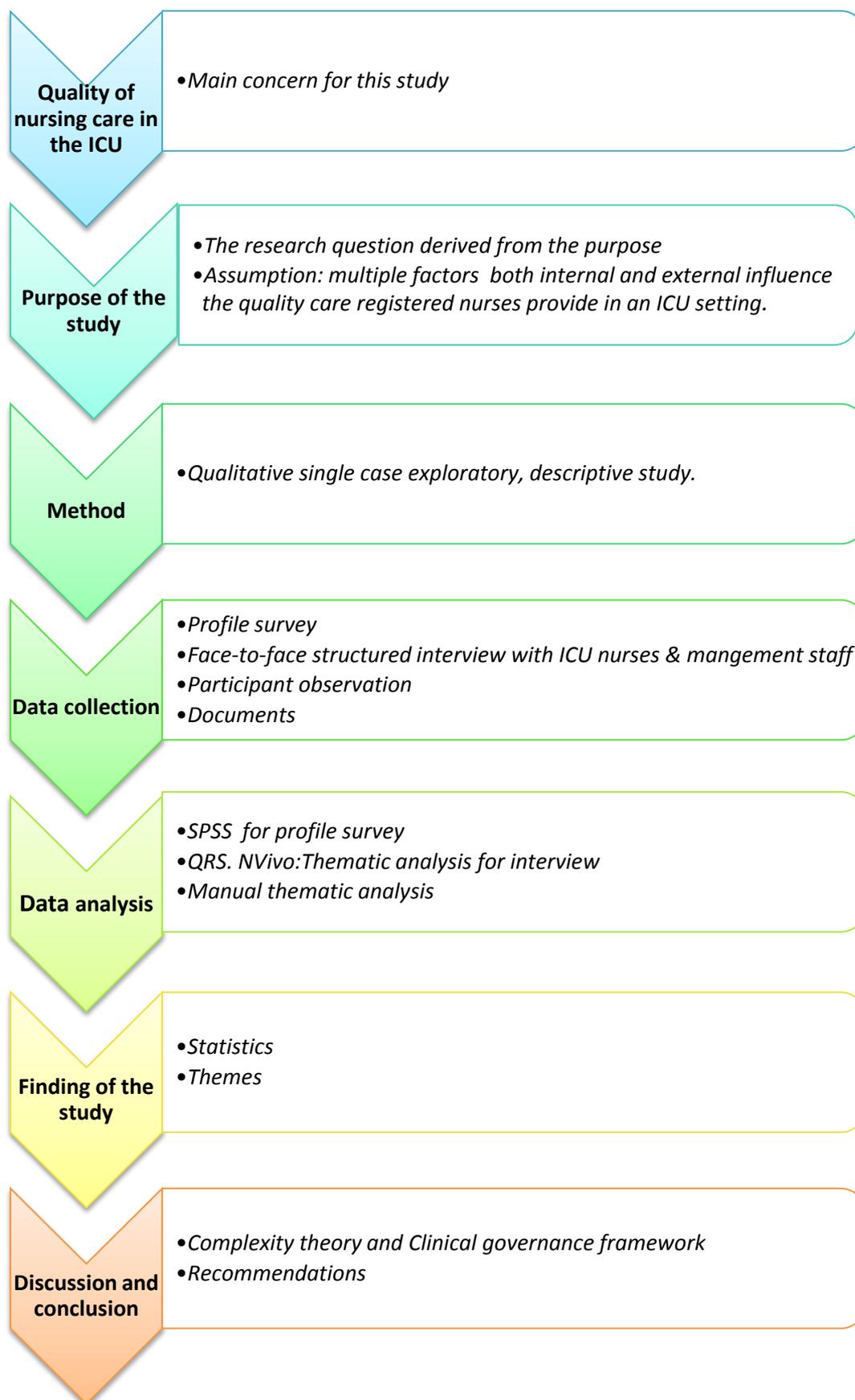


Figure 1.1 The structure of the thesis

CHAPTER TWO

Background and context of the study

Introduction

The location of this study is in Saudi Arabia. This chapter provides an overview of the health care system in Saudi Arabia including the governmental structure, its political system and a profile of the country's demographics. In addition, the Saudi Arabian economic and the socio-cultural factors are discussed and how they affect and influence the health care system. This chapter sets the scene and context of the study providing an insight into the setting and backdrop locating the research within its context in keeping with the principles of the qualitative research approach.

A snapshot of Saudi Arabia provides an insight into the context of this study and offers an overview of its distinctive characteristics in terms of the culture. The stereotypical image of Saudi Arabia is one of sandy desert, camels and oil. This image was portrayed in the film 'Lawrence of Arabia', but it is not the reality. Saudi Arabia is situated between Asia, Africa and close to Europe. It is one of the largest countries in the Middle East and occupies most of the Arabian Peninsula. The landmass is 2.25 million square kilometers and the map as represented in Figure 2.1 presents the geographical location and boundaries. Saudi Arabia shares its borders with several countries; in the east the Arabian Gulf, the United Arab Emirate, Qatar and Bahrain and in the west it is bounded by the Red Sea. Countries to the north are Kuwait, Iraq and Jordan and in the South Oman and Yemen. Saudi Arabia is geographically divided into five provinces and subdivided into 13 regions each with a capital city as a regional major administrative centre (Al-Hathloul & Aslam Mughal, 1999).

The climate varies according to the region, but in general it is hot and dry with the average temperature often above 40C in summer. In the winter, however, from early December to February the weather is cooler especially along the south and southwest coastline (Presidency of Meteorology and Environment, 2010). Although, Saudi Arabia has two coastlines: the Arabian Gulf from the east and the Red Sea from the west, it is a dry country with an average rainfall of less than 100 mm per year. This low rainfall results in most of its land being a desert (Presidency of Meteorology and Environment, 2010).



Figure 2.1 Saudi Arabia, adopted from (World Atlas, 2011).

The geographical location, the climactic conditions and the neighboring countries provides the background for a rich culture based on tradition and religion.

Culture

A brief description of Saudi society will help to illustrate some of the cultural complexities and provide a perspective to the findings of the study. A number of characteristics that delineate and in turn may affect the health of the nation define Saudi Arabian culture. Hoecklin (1995), notes that the concept of culture is a complex issue and since it is inherited over time, dominates the society and resists change. Saudi is a Muslim country, thus the Islam religion dominates the Saudis' life. The tradition is that the male is seen to be the breadwinner and the leader of the family, whilst women are expected to devote much of their time to caring for their families. More recently, however, women have been employed in areas such as education and health care provision (Cordesman, 2003). In hospitals and other health care institutions, female patients are nursed by female nurses and male patients by male nurses unless there are insufficient male nurses. The cultural tradition of gender specific nurses has resulted in challenges for the Saudi health care system in terms of the supply and demand of nurses and specifically the gender balance requirements.

It is generally acknowledged that the term nurse refers to a professional who has been successfully prepared through a formally recognised educational program. The professionally educated nurse is deemed competent to undertake a defined range of clinical responsibilities. In Saudi Arabia, the generic term nurse covers those practitioners who are educated within a defined program to practice in hospital, primary health care and mental health. Despite the recent introduction of registration for nurses, currently there are no nationally agreed titles or descriptions for each category of nurse. By comparison, in Australia there are categories such as, registered nurse, enrolled nurse and assistant in nursing. Employment of health care professionals in Saudi Arabia is governed by the political system and is reliant on expatriates to meet workforce shortages.

Political system

Saudi Arabia is a monarchical system, which in some way reflects the unitary system where the political authority is in the central government. Despite the limitation of a unitary system in terms of distribution of power, it has positive aspects as the government has the formal capacity to make more rapid and comprehensive policy changes. The recent Basic Law of Government introduced in 1992 articulates the government's right and responsibilities. Article one of the Basic Law states that "*The Kingdom of Saudi Arabia is a sovereign Arab Islamic state. Its religion is Islam, and its constitution is the Holy Qur'an and the prophet's (peace be upon him)*" Sunnah (traditions). The language in Saudi Arabia is Arabic, and the capital city is Riyadh (Majlis Ash-shura, 2010a). Further, the Basic Law asserts that the system of governance is based on justice, consultation (Shura) and equality according to the Shariah (Islamic Law).

Saudi Arabia has an influential position on the world stage both politically and economically, from a political perspective it has a stable government and is a member of the G20 (The Group of Twenty, 2010). Saudi Arabia, however, is in the midst of enormous change and crises, driven by economical and political interests of the countries that it borders. Since the Gulf War, in 1990, Saudi Arabia has witnessed three separate conflicts in Kuwait, Iraq and Afghanistan. The wars are in addition to the continuing unsolved conflict between Palestine and Israel. Together the conflicts have posed a significant and indirect challenge to the health of Saudi people. In 1990 the war in Kuwait, for example, resulted in many expatriate workers in health care leaving Saudi Arabia and consequently many hospitals became severely understaffed (Tollitz, 2005).

The contemporary political system in Saudi Arabia has developed from a rich historical background that can be traced back to 1919, when the founder of Saudi Arabia, King Abdulaziz Ibin Abdullrahamn Ibin Saud, captured Riyadh, the capital city, and continued his conquests to the rest of the country. In 1924 the King called for the application of Al Shura, an Arabic word which means consultation with the aim to conform to Islamic law, and establishes Shariah directions that fulfills the government duties. This resulted in the Consultative National Council being

established in Mecca with the role of drafting the laws of the country. Later the Consultative National Council was renamed Majlis Ash-Shura (Majlis Ash-shura, 2010b). In 1932, the contemporary political system of Saudi Arabia was unified and international recognition was achieved. In 1951, the King issued a Royal decree number (8697/11/5) to establish the Department of Health which later became the MOH (Ministry of Health, 2010a; Mufti, 2000). Since that time, the MOH has become the government agency responsible for making health care policies, planning, supervising and delivering the health care to almost 80 % of public health services (Al-Yousuf, Akerele, & Al-Mazrou, 2002). The Saudi Arabian health system was established on the basis of universalism. This meant health care for all the population. As such, all citizens are entitled to access health care free of charge. Recent reforms such as private involvement in public service delivery, competitions between providers, privatisation and greater management autonomy, are intended to introduce market principles into service delivery. There are public hospitals, for example, outsourcing some services such as medical equipment and technology.

In December 1993, the late King Fahad inaugurated a new Majlis Ash-Shura with members representing a wide spectrum of the society, with different specialities and backgrounds into committees. Currently, among these committees, is the Health and Environmental Affairs Committee (Majlis Ash-shura, 2010b). The introduction of the new Majlis Ash-Shura system was a significant move to participatory government. Although Majlis Ash-Shura has no extensive power to make obligatory policy its role is to suggest policy and advise the government on issues of importance to the nation. To illustrate this point, to become law health Bills are required to progress through the legislative process of a subcommittee, then the Health Committee and finally the full house of the 'Majlis Ash-Shura'. The Bill, however, must also pass through the Council of Ministers which is chaired by the King, or his deputy. Once passed a Royal decree is announced and the related government departments and agencies then operationalise the Bill. Similarly, if amendments have to take place to the existing laws it is reviewed and then passed through the Council of Ministers. This complex and lengthy process can cause difficulties for the health system when change is required to ensure patient safety, efficiency and effectiveness of the health care system.

The economy

Saudi Arabia was unified in 1932, since its unification, it has accomplished significant achievements in different areas such as health, education, transportation, communication and community services. The achievements were the result of decisions taken by visionary leaders; however, before the discovery of oil in the late 1930s the economy of Saudi Arabia was fragile and dependent on agriculture and trade with neighbouring countries (Royal Embassy of Saudi Arabia, 2010). During this time, financial resources were not available. Over a relatively short period of development, Saudi Arabia increased its real income several fold. The annual average wage increase was 0.87% of Gross Domestic Product (GDP) during the period 1971-2004. Despite a high population growth rate, the per-capita GDP in fixed price was SR 43.3 thousands in 2004 (Ministry of Economy and Planning, 2010b). Since the 1970 and each of the following five years period, the government has focused on special areas of need, for example education or trade. The eighth developmental plan 2005-2010 focused on continuous development in the area of economic diversification. This was in addition to the focus on education and health (Ministry of Economy and Planning, 2010a).

The years between 1970 and 2000 saw the country grow economically as a result of increased oil production and rising oil prices. As a result of the economic growth and a stable environment, not surprisingly the health of the population has substantially improved (Al-Yousuf, et al., 2002). Economic stability in the past 40 years has allowed the Saudi Arabian government to make a significant public investment in health care which has ameliorated some disparities and improved the overall health status of individuals (Al-Swailem, 1990).

Government health investment since the 1970s has increased threefold and directed to improving people's health (Mufti, 2000). This expenditure, in turn, has led to an increase in the number of hospitals and other health care facilities. Spending more money on health, however, does not always result in improved health outcomes. The Ministry of Health in the past has spent 50% of its annual budget on salary and other services (Mufti, 2000).

The health care system

The context of this study is the Saudi health care system and the issues affecting quality of nursing care in ICUs. Given this focus it is useful to provide a background to the basic organisational structure of the Saudi Arabian health care system and its operations. Globally, although health care systems differ, they may share similar characteristics that allow for a degree of comparison. The arrangement of a health care system relies on important factors including the political system, the cultural and the social structure (Wong, 1999). The Saudi Arabian health system has various models of government involvement, such as, government funded public hospitals, and support for private health care agencies (Berhie, 1991). The uniqueness of the Saudi Arabian health care system lies in citizens enjoying access to free health care locally, and internationally. Individuals may also use private insurance in some public hospitals for specialist services.

Traditionally the Saudi Arabian health care reflects a curative medical model, with little emphases on health promotion and illness prevention (Al-Yousuf, et al., 2002; Sebai, 1985). This focus is expanding with an increased public demand and access to financial resources for sophisticated care, such as renal dialysis and organ transplant. As a result, there has been a growth of specialist hospitals, such as the Prince Sultan Cardiac Centre. This demand is as a result of increased public awareness and access to medical information through the World Wide Web.

The Saudi Arabian Ministry of Health remains the biggest health service provider to residents despite the presence of other government ministries (Figure 2.2) which also provide public health services (Memish, Venkatesh, & Ahmed, 2003; Mufti, 2000). Alongside the public sector the private services contribute 26% to the Saudi Arabian health care services (Memish, et al., 2003; Tollitz, 2005). The greater numbers of private services are located in the major cities and charge fees for services, with few others located in remote areas. Whilst Saudi nationals are exempt from fees and charges for health care in the public health services, similar to other countries such as the UK, they have a choice of private insurance, which pays for health care, similar to Australia.

The structure of health care delivery in Saudi Arabia consists primarily of Ministry of Health and other public agencies that provide similar services (Berhie, 1991). These agencies are displayed in Figure 2.2 and include:

- The Ministry of Defence, which provides services to all Defence personnel and their dependents. The service also covers foreigners working in the department via its hospitals and primary health care centers. The Ministry of Defence is considered the second largest public health care provider. It has over 4,000 hospital beds and the quality of care provided in these facilities is considered by some as better than MOH services (Walston, Badran, & Faisal, 2010).
- The Ministry of Interior covers all general security personnel and their families. The service is delivered through number of hospitals and primary health care centres.
- The National Guards Health Affairs, provides comprehensive health care service to those who work in the National Guard. The main hospital is located in Riyadh and has 900 beds.
- The King Faisal Specialist Hospital and Research Centre is one of the largest tertiary hospitals in the region. It provides specialised health services to Saudi citizens and the Royal family. The hospital has 844 beds and it is one of the few research centres in the country. Two other hospitals are located in the Eastern and Western provinces.
- The Royal Commission for Jubail and Yanbu health services covers employees working in these two industrial cities.
- University teaching hospitals are attached to the existing four medical schools. Recently there are new medical schools in different parts of the country and new hospitals are under construction.

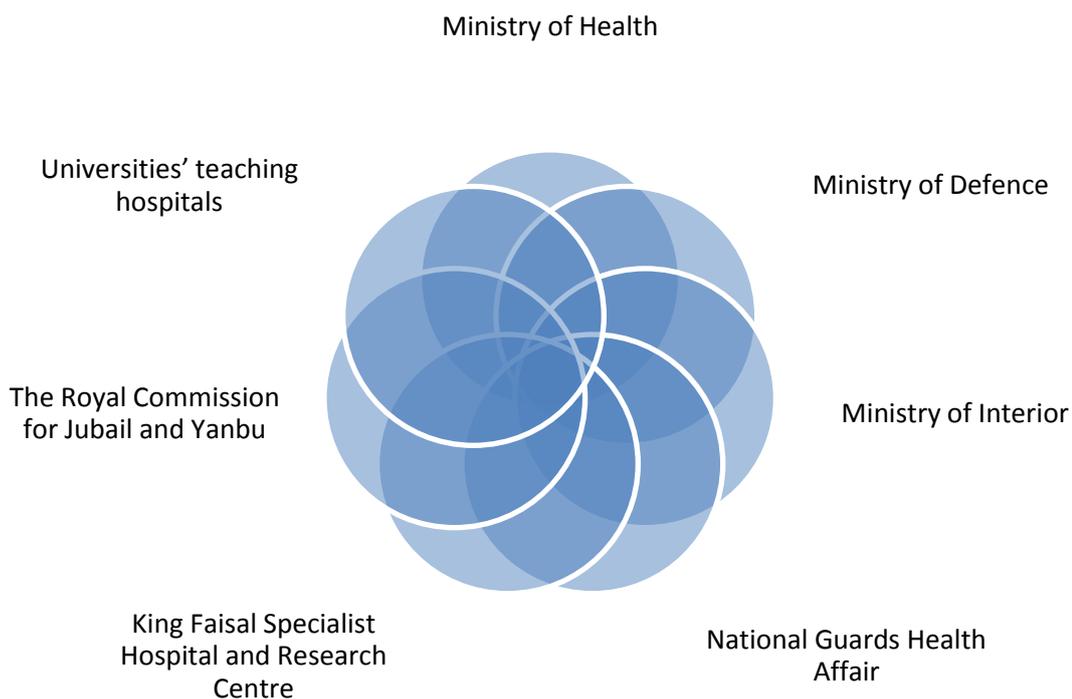


Figure 2.2 Public health care service providers

It could be argued that it is difficult to coordinate all aspects of health care in Saudi Arabia since the health service is scattered between different departments of the government. All the above health agencies, however, are governed by the Health Service Board, which is chaired by the Health Minister and the Executive Directors from each of these agencies. The Minister for Health oversees the organisation and delivery of health services in each region via Regional Health Affairs/Directorate (see Figure 2. 3). In each region the Director-General oversees the service and reports to the relevant department in the MOH.

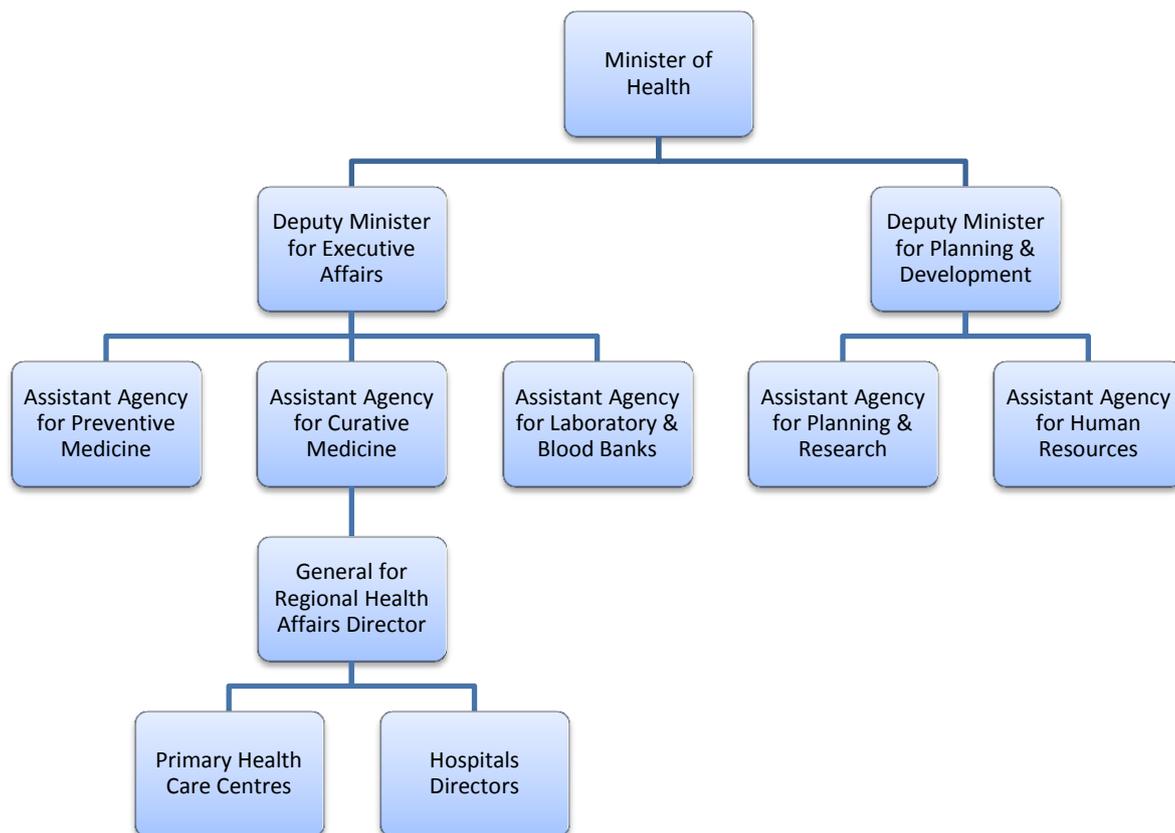


Figure 2.3 Structure and organization of Ministry of Health in Saudi Arabia

Saudi Arabian health care services like other systems in the world are organised into three levels consisting of primary, secondary, and tertiary care. Primary care combines several sets of functions including illness prevention and health promotion. Examples of the primary health care includes activities such as immunisation and screening for HIV. Immunisation protects 95.5 % of the Saudi children and the average adult will live into their 70s. There are now more than 2,700 primary health care centres and 371 hospitals in the country (Ministry of Health, 2009b). The secondary level of health care encompasses hospital inpatient admissions, diagnostic investigations and treatment. Tertiary level of health care provides a comprehensive range of sophisticated surgery, chemotherapy and ICUs.

Health care for the citizens of Saudi Arabia, made in the past decades, has arguably been one of the country's greatest accomplishments. Factors that have contributed to improving health include national economic development, education and the creation of effective health care services. Although some of these factors are

not directly linked to the organisation and delivery of health services they are important sectorial inputs into any country's efforts to establish better health for its population. Health services are administered at the Province level and an explanation of the structure is provided to set the study context.

The structure of health care in Eastern Province

The structure of health care delivery in the Eastern Province is made up primarily of General Directorate, which covers various areas of health services. Each area of health services established and developed overtime aiming to protect and maintain the health of communities in that province. Health services are provided via general regional public hospitals such as Dammam, Dahrhan and Jubail. Furthermore, there are specialized hospitals like King Faisal Specialist Hospital, Women and Children Hospital and Eye Hospital. There are also other health services provided by the public sector in the Eastern province such as mental health and primary health care centers (Al-Sharqiya Health Directorate, 2009). In total, the Eastern Province incorporates twelve general public hospitals, four specialized hospitals and sixty nine primary health care centers across the province.

Each hospital and primary health care centre, is governed by a Board and a Central Executive. The Director General oversees the organization and delivery of health services in the province through a health service Board. There are a number of departments, which serve and help the Director General. They include finance, hospitals, primary health care, personnel, operations and maintenance. Recently, the Ministry of Health ordered each directorate to establish a quality and patient safety department (Al-Sharqiya Health Directorate, 2009).

Nursing Education in Saudi Arabia

Education of nurses in Saudi Arabia has expanded to incorporate a range of skills including medication administration. In 2008, nurse education transferred to universities under the Ministry of Higher Education. This move aimed to nationally

standardises the education of nurses. Nurse Assistants and technicians complete either a diploma or Associated University Degree to meet requirements with registering authority (Saudi Commission for Health Care Specialties, 2009). Unfortunately, however, there are limited opportunities for nurses to undertake further studies in specialty areas and obtain a Bachelor's degree. Saudi Arabia is currently in transition to a new model for delivering nursing courses.

Quality program in Saudi Arabia

To understand why quality of care is a priority in the Saudi Arabian health agenda, it is necessary to follow the evolution of the quality movement in the country. Until 2001, most public hospitals managed by MOH had no general quality policy, or a standard practice of health care delivery (Walston, et al., 2010). Over the past nine years, however, a series of developments in the quality of health care has been developed and applied to the Saudi Arabian health system as a whole, including hospitals and primary health care facilities. Although, the majority of the hospitals were in the forefront of implementation of quality assurance, there was a general belief that some public hospitals did not provide a good quality standard of service (Walston, et al., 2010). This concern prompted the MOH to take an initiative to introduce national quality standards for public hospitals.

Initially, the Central Board for Accreditation of Health Institutions (CBAHI) was established by Health Minister (order number 144187/11 on 1-9-1426 H, 2006) and a mix of international standards was adopted. Together these formed the national standards, which were then circulated to regional hospitals (Central Board for Accreditation of Health Institutions, 2006). In order to introduce the standards, trainees were sent to regional hospitals to conduct workshops. They were prepared by using the model of 'train the trainer'. Several hospitals implemented the standards and have made significant progress, whilst others have encountered challenges, such as insufficient resources and lack of commitment from top management to implement. This has led to varying degrees of adoption of the national standards.

Since the introduction of the national standards, hospitals were requested to commence implementation. Some of the standards were not applicable to all hospitals and different approaches to implementation were used. Other hospitals formed quality committees and invited experts to teach the staff, with some nominated specific staff to take on the responsibility to manage the program. Thus, there were varying approaches for hospitals to respond to the external pressure for quality and effective improvement on an individual basis.

Surveyors were engaged to inspect hospitals and reported to the CBAHI on each hospital's program and its achievement through an e-reporting system. The e-reports have not been followed up and have not been made public or published in the public domain and, therefore, cannot be critiqued.

More recently, there has been pressure to establish an independent quality council for health care, but to-date this has not occurred. One potential role for the independent quality council for health care would be the accreditation of health care facilities. It should be noted that this study data was collected in 2008-2009 and at that stage none of the public hospitals were accredited. Since that time, however, the Minister of Health has announced a new national health strategy.

In 2009 the new national health strategy emphasised quality of health care. It was aimed at quality and equity of health care for all citizens by including both preventive and curative measures. Part of this strategy was health practitioners' participation in decision-making. The new strategy was not concerned merely with better quality service, but also more involvement of the consumer and the private sector. The following priorities were among many of the agenda items:

- accessibility of health services to all residents;
- focus on quality assurance in health care;
- preparing MOH facilities for accreditation;
- increase the bed capacity through building new hospitals and increasing some of the existing ones;
- improving electronic health records;
- developing human resources; and

- developing and reforming hospitals (Ministry of Health, 2010b).

As stated previously the quality of care is a core policy objective in the new national health strategy. Implementation, however, will be fraught with challenges unless resources and investment are directed to the human resources required, including nurses.

Summary

This chapter has outlined the profile of Saudi Arabia including its historical, economic and cultural development. The background places the study in a broader national and international context. The information provided also draws attention to factors that could directly, or indirectly influence the quality of care within the ICU environment in Saudi Arabia. The following chapter presents findings from a literature review which will focus on the concept surrounding the topic of this study.

CHAPTER THREE

Literature review

Introduction

Thus far, this thesis has discussed the aim and context of the study. The spotlight will now turn to providing a literature review on the concept of quality, quality in health care and its nexus with industry. Since the study aims to explore and describe factors that influence the nurses' ability to provide quality care in an ICU within the clinical governance framework, an explanation and description of the framework will be included in this part of the review. The concept on consumer involvement and participation is discussed in relationship to clinical governance. The latter part will concentrate on nursing and the specialization of critical care.

The literature review commences with the concept of quality and traces the development from both an industrial and health care perspective. The rationale for including the industrial literature is that many of the quality concepts adopted by health care had their origins in the industrial environment. Health care when adopting industrial quality concepts have not fully evaluated or researched their implementation, which has limited their impact and relevance.

The limitation of the quality literature and quality research especially applies in the Saudi Arabian context as the concept of quality was only recently introduced in 2001. Since that time quality programs have commenced in health services, however, they have not been researched or evaluated, as there are limited university research centers that are focused on quality. Given these limitations, international literature has been sourced to allow a review to set the directions for this study.

The concept of quality

According to Sahney, Banwet and Karunes (2004, p. 144) the term quality is derived from the Latin word "quails" which means 'what kind of'. This derivation of the word, however, bears little resemblance to its usage in everyday language. Given the importance of the concept of quality as a value and the widespread use of the term in health care, it is useful to examine its various definitions.

Quality is an abstract and elusive term that is frequently used in manufacturing industries and has crept into the vocabulary of health care services. Rarely, however, has it been operationalized in an explicit manner that could be used in research. A fundamental reason for the variability in defining quality is that quality has a different meaning to different people based on their perspective and orientation (Australian Council for Safety and Quality in Health Care & the National Institute of Clinical Studies, 2004; Wang, Qiu, & Gui, 2006). Some have viewed the concept from a two-dimensional perspective. That is, generic and disaggregated. The generic approach involves excellence, achieving or even exceeding customer expectation and the service suitability, whilst a disaggregated approach acknowledges its complexity and multidimensionality aspect (Campbell, Roland, & Buetow, 2000).

In the industry literature, there have been many attempts to define quality, but the focus has been on goods production, for example, quality has been defined as, 'conformance to requirements' (Crosby, 1979, p. 15). This definition focused on two aspects of quality: requirements and conformance rather than its relationship to goodness (Crosby, 1979). Quality requirements are set by the service or the product provider and obtained through feedback from users. Once the requirements are clearly defined and agreed upon, failure to meet them, resulted in waste and customer dissatisfaction (Crosby, 1979). These requirements are often translated into standards that the service or the product possessed: that is the degree of excellence required for a particular purpose. Requirements were seen as not being static rather they changed over time and were associated with developments in the service or product area (Harrington, 2009; Masters, Lesniewski, & Schmele, 1996).

Requirements five years ago, for example, may not fit society's expectations today. Providers, therefore, have to regularly review and refresh requirements.

A broader conceptual view of quality was the 'fitness-for-use' (Juran, Godfrey, Hoogstoel, & Schilling, 1999). Such a definition was a user-based approach to defining quality, where the customer's psychological and physical needs were central. The fitness-for-use suggested that it was up to the users of a product, or a service to judge its benefits and suitability (Juran, 1988).

Alternatively, quality has been viewed statistically as the degree of variability in the product (Shewhart, 1980). To avoid variation in the process of manufacturing goods, it was suggested that statistical quality control should be used, to plot and illustrate variation which could lead to changes in the manufacturing (Shewhart, 1980). If a process showed variation, then the cause of variation was revealed and removed. Determining variation and analysing its cause was one primary function of quality improvement in industry (Curtis et al., 2006). Deming (1986) suggested that, 96% of variations of the product had a common cause.

Quality has also been defined in relation to 'predictability' (Deming, 1984; Deming, 1986), that is, a predictable degree of uniformity and dependability at a reasonable cost and appropriate to the market. Feigenbaum's (1991) view of quality differed in that it was based on the customer determination and was measured against his/her requirements. The customer was seen as anyone who instigated a purchase, decided which provider to use, made the purchase and paid (Juran, 1988; William & Buswell, 2003).

According to Feigenbaum (1991) quality was defined as:

The total composite product or service characteristics of marketing, engineering, manufacturing, and maintenance through which the product and service in use will meet the expectation of the customer (Feigenbaum, 1991, p. 7).

The other aspect of quality was the conformance to requirements: in other words, conformance was how things were done (Crosby, 1979). Creativity and innovation were also seen as providing a safer, faster and cheaper service which would attract more customers (Petrick & Furr, 1995). Customers were both internal

and external to the organisation. Internal customers were the organisation's employees, and the external customers were those who used the service, or the products (Peterson, 1988; William & Buswell, 2003). Internal customers could also include departments in a company who supplied external customers that received goods and services. This view considered the organisation as a chain of individuals linked together with the objective of satisfying the needs of the external customer (Botwinick, Bisognano, & Haraden, 2006; Bouranta, Chitiris, & Paravantis, 2007; Schroeder & Maibusch, 1984).

It was posited that internal quality and employee job satisfaction were related. There was a belief that improving employees' capabilities in turn, could result in increased external customer satisfaction. Elements that were suggested as affecting the internal customer were: tools, policies and procedures, teamwork, management support, goal alignment, effective training, communication, reward and recognition. These internal service quality components were intimately related to external customer satisfaction. Internal service quality, however, was complex as the structure and function of organisations differed (Hallowell, Schlesinger, & Zornitsky, 1996). It was assumed that the customer was the patient, yet this is open to question since patient involvement in quality care has been limited (Shortell, Levin, O'Brien, & Hughes, 1995).

Over time the provision, management and measurement of quality care in Australia has been influenced by the US health care system, in particular the nexus with industry. The driving force to stay competitive within the global market post WWII saw the gurus of quality such as Deming, Juran, Crosby and Feigenbaum influence organisations and the practice of quality management (Ghobadian, Speller, & Jones, 1994).

Quality in health care

The definition and measurement of quality in health care, including nursing, have been the subject of continual debate among health professionals. Some authors have taken the position that to define quality, limits its meaning and that any definition

would reflect a value judgment. To achieve quality patient outcomes, however, there needs to be shared meaning throughout the organization, moreover, quality in a professional sense reflects a value judgment (Goldstone & Ball, 1984; Mandal, 2007; Peters, 1991).

According to the Institute of Medicine, quality care was defined as ‘the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge’ (Schuster, McGlynn, & Brook, 1998, p. 518). The Australian Institute of Health and Welfare (AIHW) considered the concept of quality in health care to be multifaceted (Australian Institute of health and Welfare, 2010b). At a broader level it reflected the extent to which a health care service, or product, produced a desired outcome (Runciman, Merry, & Walton, 2007). In basic terms quality care was viewed as ensuring the right things happened to patients more often (Niselle, 2004).

Defining the quality of health care has mostly been associated with the balance between experience and expectation and specific about an aspect of health care delivery (Lohr & Harris-Wehling, 1991). It has been described as descriptive, or prescriptive, descriptive in that it is a state or phenomenon and prescriptive in that it is used as a term in a certain situation, or during a certain period. It has been suggested that managers use the concept of quality from a prescriptive perspective, an ‘ought’ statement which is synonymous with those of the quality gurus in industry who suggested that quality was a continuous effort to meet the expectations of the customer (Laffel & Blumenthal, 1989). Scientists, however, have used it from a descriptive perspective, suggesting that it is the effect of care on the health of the individual (Rutstein et al., 1976). Both of these approaches have used statistical processes in health care services to monitor quality (Benneyan, 1998; Clark, Cushing, & Bredenberg, 1998).

A scientific descriptive framework was attributed to Donabedian in the 70s (Donabedian, 1980). This framework has been consistently used to interpret and measure quality in health care (Harteloh & Verheggen, 1994). The framework addressed three domains: structure, process and outcomes. Structure referred to the providers of care, their resources and the organizational environment in which they

worked. Process was seen as primarily the patient's treatment and outcomes that changed their health status (Hogston, 1995; Lamb, Jennings, Mitchell, & Lang, 2004; Mandal, 2007; Williams, 1998). Much of the nursing literature described studies that have evaluated quality care using the Donabedian's quality framework (Salzer, Nixon, Schut, Karver, & Bickman, 1996, February 26-28,). There are, however, clear distinctions between quality as used in the corporate sphere and health services with some nursing theorists regarding Donabedian's framework as inadequately reflecting the complexity and multidimensionality of nursing care. These theorists propose discipline specific alternatives that reflect quality from the nursing perspective (Gunther & Alligood, 2002; Mayberry & Gennaro, 2001).

Paradigm shift in quality management in health care

It has been argued that, it takes a crisis or revolution for the formulation of new theories in science (Kuhn, 1970). It is further postulated that, these new theories are not cumulative additions to previous knowledge but rather they are a new ways of seeing the world (Kegley, 1995). Once there is a consensus regarding the new theory, then, there is said to be a paradigm shift (Marks-Maran, 1999). Given this notion of change, this review will discuss some of the significant events in health care which have changed health care organizations perspective on quality care.

A historical perspective indicates the concern for quality health care dates back to Hippocrates in the 5th century BC. Hippocrates initiated the basic code of medical ethics obliging all doctors to 'do no harm' (Kavari, 2006), whereas the history of quality nursing care can be traced back to Florence Nightingale and her attempts to improve the conditions of care for injured soldiers during the Crimean War in 1858 (Abel-Smith, 1960; Niaz, 2005). Nightingale's methods of providing care have been regarded as one of the first documented efforts of quality improvement. Since then, nursing has developed into a profession with a unique body of knowledge and continues to have a primary interest in providing quality health care to all (Bond & Thomas, 1991; Kahn, 1987; Mustard, 2002).

Health care over time has tended to be craft-based, with health care professionals providing their crafts to patients (Leggat, 2008). This approach to care from a quality perspective, however, has been fragmented since it has been associated with individual clinicians (Boaden & Harvey, 2008). Nursing followed the Nightingale model with its regimented routines and hierarchical management, from a bio-medical model (Harrison & Lim, 2003). The traditional model of evaluation was linked to the apprentice based training with nursing care being organised according to tasks. Within this model, quality was viewed as a product of highly skilled craft-work and was achieved by militaristic training and its enculturation into nursing. Individual nurses were evaluated on the tasks they performed using various rating scales such as the Slater Nursing Competency Rating Scale (Wandelt & Stewart, 1975). Critics have argued that this approach to quality limited the possibility of sharing knowledge and experience, since individual evaluation failed to address important quality improvement issues, including practitioner involvement and ownership for quality (Harvey, 1996). Clinical management has been of secondary concern and often linked to time and effort (Braithwaite, Luft, & Bender, 2007).

The United States health care

The primary measure of the US economy was productivity, but with other industrialised countries such as Japan and Germany threatening to overtake American products, the emphasis changed to speed and flexibility (Schmidt & Finnigan, 1992). In the US, health care along with industry, demanded quality of goods rather than quantity. This paradigm shift was labeled the third revolution (Deming, 1986). The world no longer needed vast quantities of goods: they were demanding quality, with management being blamed for 85% of quality problems (Deming, 1986).

By 1952, rising costs, over servicing and poor quality of medical care resulted in the formation of the Joint Commission on Accreditation of Hospitals (JCAH). This initiative was formed with the aim of accrediting hospitals that demonstrated processes and mechanisms to provide high quality health care. The JCAH

emphasised the need for and responsibility of health professionals to analyse, review and evaluate clinical practice and to make improvements where necessary (Mackie, Peddie, & Pedleton, 1985). By the 70s, it was realised that audit reviews had not sufficiently influenced positive patient outcomes (Sale, 1996). Accordingly, in 1979 the JCAH developed standards clearly outlining interdisciplinary responsibility for quality assurance (QA) (Mackie, et al., 1985). It became mandatory for hospitals to have QA programs in place to be accredited. Thus, the 80s became alive with the buzzword quality assurance (Schmele, 1996). This quality movement was an array of seemingly divergent objectives, statistical jargon and management actions (Deming, 1986). Nevertheless, the adoption of QA practices used by business corporations was seen by some health care organisations to have relevance to quality in health care (Boaden & Harvey, 2008; Braithwaite & Travaglia, 2008; Zabada, Rivers, & Munchus, 1998).

Australia

In 1974, Australia followed the US lead by establishing the Australian Council on Health Care Standards (ACHS) (Australian Council on Healthcare Standards, 2010c). This development was a joint venture between the Australian Medical Association, medical colleges and the Australian Hospital Association (AHA), in an effort to improve the quality of patient care (Australian Council on Healthcare Standards, 2010b; Renwick & Harvey, 1989). The ACHS was an independent authority on measurement and implementation of quality improvement systems for Australian health care organisations. In 1988, the ACHS changed its name to the Australian Council on Healthcare Standards (ACHS) (Renwick & Harvey, 1989). The ACHS is currently the leading independent, not-for-profit organisation dedicated to improving the quality and safety of health care through continual review of performance, assessment and accreditation (Australian Council on Healthcare Standards, 2010b).

In 1987 the Australian Federal government established the Australian Institute of Health and Welfare (AIHW) as a national agency under the Australian Institute of Health and Welfare Act, to provide reliable, regular and relevant information on

Australians' health. As a statutory authority the institute was accountable to the Australian parliament through the Health and Ageing portfolio (Australian Institute of Health and Welfare, 2010a). Another organization, the Australian Quality Council (AQC) was founded in 1993. Although this peak organisation was not directly involved with health care it aimed to assist Australian enterprises to achieve international competitiveness and world's best practice through the application of quality principles and practices (Dawson & Palmer, 1995).

A further national organization the Australian Safety and Quality Council (ASQC) was formed in 1999. This organization was established in response to the first nationally representative study of adverse events in hospitalized patients. The study, which was tabled in the Federal parliament, found that 16.6% of admissions were associated with an adverse event and 51% of these were considered preventable. Consequently, the spotlight turned to safety issues and hospital settings (Balding, 2005). Patient safety was seen as the lever for improving quality care (Warburton, 2008).

In 2006, as part of a national initiative to improve safety and quality across Australia the Australian Commission on Safety and Quality in Health Care (ACSQHC) was established. This body was funded by each State and Territory and had several roles including providing strategic advice to the Australian Ministers of Health on best practice thinking, to drive quality improvement and recommend nationally agreed standards for safety and quality improvement (Australian Council on Healthcare Standards, 2010a).

Quality Assurance

Nurses have consistently been concerned with the quality of nursing care, indeed there has been a plethora of literature written by nurses, regarding QA (Ellis, Whittington, & Whittington, 1993). Such has been the endearing nature of quality in health care that QA programs were developed through government legislation, accrediting bodies and professional organizations (Eastman, 1992). For example in 1979, the Federal council of the then Royal Australian Nursing Federation (RANF)

endorsed a national QA program which set out standards for nursing practice. The program was designed to guide and judge the practice of professional nurses.

Quality assurance was defined as:

a planned systematic approach to monitoring and evaluating care provided or service being delivered that identifies opportunities for improvement and provides a mechanism through which action is taken to make and maintain improvement (Australian Council on Health Care Standards, 1981, p. 35).

Donabedian (1992) defined QA as 'an activity which aimed to elicit information about clinical performance' (p. 247). Similar to the US, standards for QA became mandatory for hospital accreditation in Australia. It would appear, however, that not all hospitals implemented QA initiatives. In 1983, the Sax report highlighted that there was insufficient evidence, which could be used to describe the quality care in some South Australian hospitals (Sax, 1984). Societal pressure, the introduction of national format and process for accreditation, forced hospitals to review their services and standards in line with the ACHS. This action was seen as a demonstration of public accountability for care delivered by hospitals (Renwick & Harvey, 1989).

In 1996, the ACHS developed the Evaluation and Quality Improvement Program (EQuIP) framework to improve the quality and safety of health care. The framework was aimed at delivering consumer centered service. It focused on the continuum of care by incorporating systematic external peer reviews.

Limitations of QA

Developments in health care have been influenced by industry methods of evaluating quality and have embraced quality management concepts from corporate management practices (Young et al., 2004). In the late 1970s, industry, particularly in the US, moved from productivity, as a measurement of the economy, into a climate of competitiveness. Methods of improving work processes were sought by eliciting suggestions from employees (Baker & Gelmon, 1996). Quality circles were initiated, as a means to capture ways of improving operations. Whilst this method

enjoyed some success, it failed as some employers had reservations when listening to employees suggestions (Schmidt & Finnigan, 1992). Similarly, in nursing, quality circles were implemented in some hospitals in Western Australia as a means of QA (Mackey, 1990).

Quality assurance programs focused mainly on measuring technical performance, determining whether performance conformed to acceptable standards and attempted to improve performance when the standards were not met. They were inherently directed at finding shortcomings in the staff and apportioning blame when the performance standards were not achieved (Fields, 1996). Staff involvement in the QA process was viewed as unpleasant. Moreover, there was little room for continual performance improvement (Cruickshank, 2003).

Standards of clinical practice, however, rarely met the needs of clients. In essence, quality activity and client care were practiced as mutually exclusive (Larrabee, 1995). Critics of the QA system suggested that it was static and narrowly defined to meet modern health care requirements: it focused on the practitioner and the department rather than the whole organisation. Moreover, it was built around external accreditation agency standards (Donabedian, 1996). Additionally, QA programs were not well integrated into other management systems nor provided incentives for managers to improve work processes and service outcomes (William, 1992). A major limitation was its failure to prevent, innovate and develop personnel (Shroeder, 1988). Thus, the emphasis shifted from a QA system of monitoring and evaluating individual performance, to identifying, analysing and improving the key organisational systems that contributed to effective and efficient performance (Bleich, 1996).

Total quality management

Dissatisfaction with the limitations of the existing QA programs led the compass, to once again, turn to industry for answers to the question of quality and costs (Meisenheimer, 1996). There was a belief that industry, with its emphasis on cost

efficiencies, could help remedy the health care financial crisis. Utilising the industrial model was seen as yielding improvements in productivity and efficiency since in the customer's mind, price equated to quality (Donabedian, 1996). It was postulated that, quality products attracted customers, which would translate to lower costs (Deming, 1984). Consequently, the late 1980s saw the paradigm of 'quality versus cost' to 'quality and costs' and the switch from quality assurance to total quality management (TQM) and continuous quality improvement (CQI) (D.M. Berwick, 1989; Bull, 1996; Harvey, 1996).

Whilst CQI was part of TQM the terms were not synonymous. Total quality management was defined as:

a philosophy of leadership grounded in statistical theory and driven by a shared set of values and beliefs. It is operationalised by, top-down, total employee commitment and participation in customer focused CQI of all work processes throughout the whole organisation, or the continuum of organisations providing services (Meisenheimer, 1996, p. 314).

By contrast, CQI referred to: 'a set of process-improvement tools and practices used by empowered and satisfied employees and partners to systematically and statistically analyse opportunities for improvement' (Meisenheimer, 1996, p. 315). Quality improvement was seen as a continuous cycle of planning, implementing strategies, evaluating the effectiveness of those strategies and reflecting on what further improvement could be made together with the resources required (McLaughlin & Kaluzny, 1999). Aspects of quality included care planning and interventions, patient access, satisfaction and service utilization (Marquis & Huston, 2000). The need for quality improvement was based on the use of objective criteria, with the resulting data demonstrating deficiencies that required action to meet set standards (Zazove & Klinkman, 1998).

The shift from QA to TQM was the realisation that the internal customer was an important part of reducing costs and increasing quality of the product. The emphasis was on people management issues and hard and soft aspects of TQM. The hard aspects referred to the production-oriented aspects, which included systems, data collections and measurement, while the soft aspect reflected the human factors in the organization (Wilkinson, 1992).

The concepts of organisational culture and climate, although first developed in the 1930s, became part of the human relations movement in health care in the 1980s (Gershon, Stone, Bakken, & Larson, 2004). Organisational culture was defined as ‘the norms, values and basic assumptions of a given organisation’ whereas organisational climate ‘more closely reflects the employee’s perception of the culture’ (Gershon, et al., 2004, p. 35). Organisational culture was seen as holistic, historically determined and socially constructed; manifesting in a wide range of organisational life (Hofstede, Neuijen, Ohayv, & Sanders, 1990). Importantly from a health care perspective, adverse organisational culture and climate were associated with, ‘lower rates of worker morale; higher levels of work stress; higher incident rates; higher burnout rates; higher turnover; and higher adverse events and patient quality of care issues’ (Gershon, et al., 2004, p. 37).

Total quality management involved a change in the organisational culture with a greater emphasis on collaboration and teamwork and a clearly defined vision and strategy (Schmidt & Finnigan, 1992). In TQM, the realisation that the internal customer: the employee could directly affect quality and thus, the external customer, lead to empowerment principles that were a key factor in TQM (Schmidt & Finnigan, 1992). External customers included patients and their families; government agencies, insurance companies, universities, unions and suppliers (Petrick & Furr, 1995). Previously, the focus of the management literature was on external customers as they translated into increased profits (Spreng & Mckoy, 1996). The internal/external framework underlined the notion that an organisation consisted of a chain of individuals and functional units, linked together with the objective of satisfying the needs of the external customer (Finn, Baker, Marshall, & Anderson, 1998; Mills & Ungson, 2001).

Several health care organisations in the US implemented TQM with mostly positive results (Berwick, Godfrey, & Roessner, 1990). This finding prompted other health care organisations to follow the lead (Meisenheimer, 1996). In Australia the ACHS stated that:

Whilst the evolving Accreditation Program effectively demonstrated its objectives of continuously searching for

improvement in the standards of health care, the ACHS has recognised the need to learn from industry at large. The concepts of total quality management (TQM) and continuous quality improvement (CQI) have a place in health care, particularly in an environment of cost containment, shrinking resources and rising consumer expectations (Australian Council on Health Care Standards, 1993, p. 19).

Limitations of TQM

The majority of the literature about the value of TQM in health care facilities and nursing has been anecdotal with very few empirically based studies (Zabada, et al., 1998). Most of the incompatibilities between TQM philosophy and the practices of health care organisations were based on the organisational culture and the lack of commitment by top management. It required leaders to have a commitment to dedicating sufficient resources, both time and money (Masters, et al., 1996). It was posited that leaders acted defensively to protect the institution rather than its patients (Walshe & Shortell, 2004). Senior managers did not realise the difference between traditional management philosophy and TQM and the change that was required to organisational culture (Detert, Schroeder, & Mauriel, 2000; Eastman, 1992). Additionally, there was inadequate infrastructure for quality improvement (Masters, et al., 1996). Significantly, from a contextual perspective in determining the effectiveness of quality improvement, culture and leadership within organisations had not yet been robustly studied (Wolff & Taylor, 2009).

The typical hierarchical and bureaucratic organisational structure found in most hospitals may have been at the heart of the failed attempts to embrace the philosophy of TQM (Meisenheimer, 1996). Typically hospital structure is organised into formal managerial and clinical hierarchies and whilst being based on scientific management principles, has continued to maintain a commitment to professional autonomy (Leggat & Dwyer, 2005). Each health professional has a standard of conduct and ethical codes of practice that are inculcated during their professional training, education and registration. It has been found that ‘the more complex the nature of the work and the higher the qualifications of the workers, the larger and more elaborate the hierarchy’ (Scott, 1982, p. 213).

Part of the difficulty with implementing effective human resource management (HRM) strategies has been the diverse culture of health professionals. This culture has been described as ‘rigid and reluctant to change, tribal and self-serving, as well as being strongly unionised with powerful professional associations’ (Stanton, 2008, p. 35). Thus, competing interests and associated autonomy required by health professionals and the resulting power struggle may have impeded the implementation of TQM (Badrick & Preston, 2001). Furthermore, it was suggested that the political and bureaucratic processes which regulate hospitals were profoundly anti-quality (Morton, 1992). This inconsistency and clinician managers’ focus on process quality and data management, has led some to argue that there is little managerial control over medicine (Braithwaite, 2004; Braithwaite, et al., 2007; Harrison & Lim, 2003).

Total Quality Management was seen by some as a fad, in that it had unrealistic expectations; even Crosby, one of the ‘gurus’ of quality criticised it for failing to redirect management’s attention from financial measures to quality measures (Crosby, 1992). Another barrier to TQM, was the increasing demand for customer satisfaction, reduction of cost structures, improvement of process design, and improving human resource utilization (Kayis, 1998). Other obstacles included fuzzy missions, poor communication of organisational purpose and strategies and lack of commitment to training and learning (Reinertsen, 1995).

Other approaches to quality health care

Despite the limitations of TQM, health managers once again turned to industry for answers. A plethora of approaches to quality management such as six sigma developed by Motorola (Black & Revere, 2006; Jiju, Douglas, & Antony, 2007), and Lean Thinking developed by the Toyota production system (Brandao de Souza, 2009) have been borrowed from industry. Six sigma, was a quality scheme designed to improve and monitor business (Black & Revere, 2006). By reducing defects it was hoped that the firm’s marketing position would be strengthened (Harry & Schroeder, 2000). Activities were aimed at eliminating waste while optimising

customer satisfaction and increasing financial stability (Pande, Neuman, & Cavanagh, 2000). It was argued that six sigma was similar to other quality management approaches but few studies in health care have supported its claim to represent a new organisational structural approach to improvement (Boaden & Harvey, 2008). Lean thinking was another approach, which has also been implemented into health care, but without few studies on its effectiveness (Boaden & Harvey, 2008). This approach to health care settings focused on structuring the service delivery to increase specialisation among patient outputs (Ben-Tovim et al., 2007).

Most organisations transform inputs into outputs using Donabedian's quality framework of structure, process and outcomes (Leggat, 2008). An example of using this approach to health care and in particular patient safety was proposed by Karsh, Holden and Alper (2006). These authors suggested that outcomes were affected by improving the processes of care, which in turn were achieved through two mechanisms: performance and hazard reduction. Performance was related to a health professional's social, physical mental and behavioural activities in pursuit of patient goals. Hazard reduction was seen as a system of elements that increased the likelihood of errors. The human factors engineering paradigm for patient safety, was suggested as enabling health professionals to execute successfully the care processes that lead to patient and organisational outcomes (Karsh, et al., 2006).

Essentially, it was argued that principles, structures and processes adopted from industry had no place in health care since it was more complex than a production line (Picone, 2000). In health care the outputs were not fully known or able to be measured in terms of quality, but were reliant on human subjectiveness (Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000; Vissers & Beech, 2005). Moreover, there was little evidence in the scientific literature on the effectiveness of quality management of clinical outcomes (Wolff & Taylor, 2009).

The human factor, in terms of the patient and the health care professional, has created a more complex environment than that of industry and commercial enterprise. Despite Donabedian (1988) suggesting caution in measuring quality care, the framework continues to be used. Donabedian (1988), considered that health care

consisted of both technical and interpersonal exchanges between medical practitioners and nurses. Furthermore, it was people removed from clinical practice that had demanded quality to be measured, standardized and improved. Health service management has been characterised by, complex decision-making; serious consequences or errors, an uncertain external environment and goals of the health service. These goals have been described as generally ambiguous and potentially conflicting (Leatt & Porter, 2003). Whilst some aspects of quality may be easy to define some elements remain elusive (Donabedian, 1996).

In 2004, the Productivity Commission in Australia studied the issues that affected on the workforce to ensure the continued delivery of quality health care over the following 10 years. The findings were not surprising, given the complexity of the health care workforce and the challenges to train, develop, deploy, manage; and engage an effective workforce (Hyde et al., 2006). At macroscopic level the shortage of health professionals, the numbers of health care institutions; and the difficulty of measuring productivity, were challenges that needed to be overcome (Productive Commission, 2005). Health care has become a political football with key stakeholders having a powerful effect on an organisation's ability to provide quality care (Stanton, 2008). Yet, despite these challenges the literature suggests that effective HRM can play a crucial role in health care (Bowen & Ostroff, 2004; Mannion, Davies, & Marshall, 2005; Stanton, 2008). Some of the positive steps implemented by HRM systems is to reward and encourage behaviour that leads to high-quality and responsive patient care (Stanton, 2008). From this perspective there has been a renewed interest from health policy makers, governments, practitioners and academics (Bach, 2001; Kabene, Orchard, Howard, Soriano, & Leduc, 2006).

Whilst the literature is replete with industry approaches to health care management, the third party often neglected is the recipient of health care. There is evidence to suggest that health care providers were strongly opposed to consumers becoming involved in the health care system, because they believed that patient participation would upset the health care delivery process (Hamilton, 1982). This notion may have come from the rigid retrospective and traditional QA style of health care delivery (Cruickshank, 2003). Findings from a major study involving Germany, Japan, Canada and the US, identified that the customer was not the driving force

behind quality performance, rather it was defined from the provider's perspective (Ernst & Young & American Quality Foundation, 1991).

The patient, client, and their families are the consumers of health care, but they have had limited involvement in hospital processes due to the complexity of the service (Elkhuizen, Limburg, Bakker, & Klazinga, 2006). Studies have determined, however, that there is a need to be a customer focus and high staff involvement to improve the quality of care (Institute of Medicine, 2001). In the hospital setting, the patient may have a limited choice and their expectations of quality care are likely to be influenced by their needs, which are not market based (Picone, 2000). Choice for consumers has been associated with ignorance, fear and a sense of powerlessness and sometimes with cost (Picone, 2000). In Australia, quality health care is viewed as a fundamental social right, not as a commodity (Picone, 2000).

Rationalisation of the Australian health care system continues to plague organisations in terms of constant change to ensure greater efficiencies and cost containment. This rationalisation has led to criticism that the system is a business focusing on costs and outputs (Picone, 2000). Competition has been artificially constructed by the deliberate introduction of such things as case mix and diagnosis related groupings (Picone, 2000). Whilst there were some positive effects of this system the case mix system failed to measure quality or patient outcomes, protect vulnerable patients or ensure continuity of care (Braithwaite, 1998).

No one-health professional has the responsibility for patient care throughout his or her entire journey in the health care system. From a quality care perspective, this fragmented service where each health professional, manager and consumer of health care is independent of the organisation as a whole, needs to be integrated and a bridge built between competing goals (Berg, Schellekens, & Bergen, 2005; Walshe & Shortell, 2004). There is some suggestion that nursing has led the way to build the bridge, but that there is room for improvement (Leape, 2007).

Since health professionals and quality managers focus on different dimensions it creates a quality chasm. At the heart of a health professionals work ethic is the dictum 'first do no harm' with a focus on effectiveness and safety (Berwick, 1998).

Criticism, however, has been leveled at some health professionals for placing self-interests above patients (Walshe & Shortell, 2004). This issue has been associated with medical practitioners perceiving that their autonomy was being threatened resulting in resistance to implementing strategies for continuous quality improvement (Kingston, Evans, Smith, & Berry, 2004; Shojania & Grimshaw, 2005). Additionally, safety was not seen as part of the daily remit of some medical practitioners who believed that strategies for quality improvement interfere with delivery of care and are a waste of time (Goode, Clancy, Kimball, Meyer, & Eisenberg, 2002).

It is argued that strategies for quality improvement borrowed or modified from industry, have superficially been evaluated for their effectiveness in health care. Moreover, these strategies such as audits, feedback, reminders and educational research have consumed considerable resources with few benefits to patient care (Shojania & Grimshaw, 2005). A barrier to the effectiveness of health care quality programs is that some managers view them as optional (Ovretveit, 2004), and focus on efficiency in terms of costs (Berwick, 1998). In a study of nurses' perception of care, participants stated they did not receive cohesive messages about safety from management (Elder, Brungs, Nagy, Kudel, & Render, 2008). This finding supports the notion that there needs to be a collaborative approach to achieving quality care.

Cancer services in the US, Europe and Australia have implemented a more collaborative approach to quality care, which has been referred to as the breakthrough model. Although there were variation in evaluating the effectiveness of this model, staff in these areas generally reported changes in attitude towards quality improvement, empowerment and the provision of time for training. Whilst these variations were context specific, it is suggested that there is merit in achieving a balance between top-down initiation and leadership, and bottom-up ownership and commitment (Boaden & Harvey, 2008). Without the clear overall direction of a comprehensive organisation and a system-wide quality and safety program, a health service is uncoordinated and fragmented increasing the risk of lowering the quality of care.

Over the last twenty years, a number of approaches to quality improvement have been tried and discarded. Most have been adopted from industry, with little attention paid to the complex health environment including the multiplicity of health care professionals and allied health workers. From QA, and its audit checklist based principles, to TQM, which was poorly adapted, the focus has been on management rather than clinicians who provide front line care. Additionally, accreditation of the hospital tended to reinforce the management perspective (Balding, 2008). In some cases sets of performance ranking were prioritised above others, which lead to external inspection becoming the definer of quality (Boaden & Harvey, 2008).

In recent years the quality of health care globally, has become of increased interest to all stakeholders including consumers. A major reason is the increased public concern about the safety of health care services (Kohn, Corrigan, & Donaldson, 2000; Lighter & McLaughlin, 2004; Williams & Clarke, 2001). This interest is illustrated in the report from United States entitled, *To err is Human*, which demonstrated that between 44,000 to 98,000 Americans die each year as a result of medical errors (Kohn, et al., 2000). Similarly, in the United Kingdom, the high rate of child deaths at the Bristol Royal Infirmary raised concerns about the safety and quality of care (Scall & Donaldson, 1998; Smith, 2001). Likewise, in Australia there have been inquiries such as the obstetrical and gynaecological services at King Edward Memorial Hospital (Douglas, Robinson, & Fahy, 2001); in New South Wales at the Campbelltown Hospital (Walker, 2004) and in Queensland at the Bundaberg Base Hospital (Davis, 2005). These inquiries led to the perception that it was the lack of action that was blamed for sub-standard care. Moreover, patient safety entered the lexicon of health professionals and management alike and a universal focus on quality programs (Balding, 2008).

A clearer picture from the public inquiries around the world portrayed a number of themes, for example ‘lines of accountability for patient care were unclear; there were cultures of blame and shame; poor systems for staff training and credentialing, and in some cases none at all’ (Walshe & Shortell, 2004). Some key risk areas have been recognised internationally as: medication errors; falls; pressure ulcers; and poor communication (Hudson, 2003).

In the past quality of health care relied upon professional opinion. In contemporary health settings, however, objective measures of quality are required (Brook, McGlynn, & Cleary, 1996). The demand for quality care has risen from purchasers of health care and consumers, as it has close links to costs and outcomes of care (Terry, Vicki, Thomas, & Susan, 1999). Evidence from governments spending on health service shows a spiral increase in costs and finite resources. In some health care systems it has doubled (Lighter & McLaughlin, 2004). To-date governance in health care has focused on finances with only 10% of Board meetings being devoted to clinical issues (Deighan & Bullivant, 2006).

Consumer access to information such as internet and the demand for better care has empowered consumers to question health professionals and governments (McSherry & Pearce, 2007; Scall & Donaldson, 1998). Access to the World Wide Web, has meant that people have a wide range of health related information on a global scale. Thus, the knowledge gap between health practitioners and patients has decreased and patients are in a better position to advocate for their right and choice. In the US, 1050 physicians were surveyed about patients utilising internet information. The findings demonstrated approximately 85% of patients brought information from the internet to discuss their treatment (Murray et al., 2003).

The emphasis on quality improvement strategies has been management driven in the hierarchical organisational structure. In this top down evaluation and monitoring system questions have been asked about the validity and reliability of the instruments and most importantly changing health practitioners practice and improvement of patient care (De Vos, Graafmans, Keesman, Westert, & van der Voort, 2007). Clinical governance is a framework for ensuring that each individual is accountable for their actions, and that clinical quality exists throughout the entire organization (McSherry & Pearce, 2007).

Clinical governance framework

In 1997, clinical governance was part of the change process instituted by the National Health Service (NHS) in the UK following the Bristol Royal Infirmary inquiry. Its implementation aimed to demonstrate modern and dependable service

(Nicholls, Cullen, O'Neill, & Halligan, 2000). The focus was on raising public confidence in health services, equity and quality of patient care and collaboration between health professionals, government authority and service providers (Jorm, Banks, & Twohill, 2008; McSherry & Pearce, 2007). Clinical governance was introduced as a structured system for promoting the continuous quality of health care delivery. At the time clinical governance was defined as:

A framework through which NHS Organisations are accountable for continually improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish (Halligan & Donaldson, 2001, p. 1413).

Clinical governance was enacted in the UK through statutory changes imposing a legal duty of quality on the chief executives and Boards of NHS Organisations. This created a corporate responsibility for the quality of clinical care (Boaden & Harvey, 2008). The World Health Organisation (WHO) viewed clinical governance as an integrated system of activities, consisting of professional performance review, resource use, risk management and patient satisfaction (World Health Organisation, 1983).

Although the concept of clinical governance has evolved from the business world of corporate governance, it has been adapted to health care and is about 'patients receiving the right care, by the right people, in a safe environment' (McSherry & Pearce, 2007, p. 18). Clinical governance focuses on what occurs at the bedside, inwards, units, clinics and where health services are provided (Braithwaite & Travaglia, 2008).

One of the key themes in clinical governance is the establishment of an honest and open culture that encourages and responds to staff and public opinion (Gray, 2005; McSherry & Pearce, 2007). A study supporting this claim found that medical practitioners and nurses saw quality as dependent on continuous non-judgemental, self-reflection and evaluation, at both the individual and team level. Medical practitioners preferred a collegial blame free approach to quality improvement (Hudelson, Cléopas, Kolly, Chopard, & Perneger, 2008). Evidence suggests that

both organisational culture and climate may play key roles in patient quality care indicators (Gershon, et al., 2004; van Donk & Sanders, 1993).

Clinical governance is an umbrella term for issues and concepts such as standard setting, risk management, training, reflection and professional development relevant to quality care (Jorm, et al., 2008). This can only take place where the organizational infrastructures support the overall aims of corporate, clinical and non-clinical aspects of governance (McSherry & Pearce, 2007). Essentially clinical governance demands a major cultural change, but cannot be simply imposed as it entails a significant shift in attitude and behavior (Travaglia & Braithwaite, 2008; Walshe, Freeman, Latham, Wallace, & Spurgeon, 2000). Significantly, it is collaboration and partnership between directors and clinicians (Robinson, 2008; Travaglia & Braithwaite, 2008).

A number of benefits of clinical governance have been identified. At a managerial level, clinical governance provides clear strategic direction for health service planning. Other benefits include inter-professional teamwork, improved leadership and the involvement of patient and carers in improving care. From the public or patient's viewpoint, this involvement in care and access to information reduces risks and provides a greater satisfaction of care (Jorm, et al., 2008; McSherry & Pearce, 2007).

Participation by employees is seen as an important part of clinical governance (O'Donoghue, Stanton, & Bartram, 2005). Moreover, it is preferable to have a collaborative approach to patient care rather than monitoring, inspection and control (Ledema, Braithwaite, Jorm, & et al, 2005). Sharing patient information, discussing any difficulties encountered and showing respect for different roles and competencies were seen important by both medical practitioners and nurses in achieving quality care (Hudelson, et al., 2008). The model of collaboration and multidisciplinary team work has been embraced by: the Royal Australian College of Surgeons; the National Health and Medical Research Council; the National Breast Cancer Centre; and the Australian Council on Safety and Quality in Health care (Moorin, 2005; Willis, Dwyer, & Dunn, 2008).

Within the clinical governance framework, the pursuit of clinical excellence of the organization can be promoted, provided the staff are appropriately skilled, knowledgeable and competent to practice (McSherry & Pearce, 2007). In a study of medical practitioners and nurses perception of quality both health professionals saw it as primarily the responsibility of individual practitioner and was dependent on their competence, a notion that equates to the traditional ethos of professionalism in medicine and nursing (Hudelson, et al., 2008). This finding is in tune with clinical governance, which advocates that individual staff members should be actively supported to further develop, apply and evaluate the care and the services provided, with the aim of improving the quality and standards of care (McSherry & Pearce, 2007).

Whilst there are no ‘magic wand’ solutions to providing quality and safety, some States in Australia have embraced clinical governance as a strategy to improve health care. Critics have labeled the strategy as another fad, but there is considerable literature that supports the concept (Braithwaite & Travaglia, 2008). The objectives of clinical governance are achieved using quality improvement and risk management (Wolff & Taylor, 2009). The Australian Council on Health Care Standards (ACHS) defines clinical governance as:

The system by which a governing body, managers and clinicians share responsibility and are held accountable for patient care, minimising risks to consumers and for continuously monitoring and improving the quality of clinical care (2004, p.4).

In 2001, Western Australia’s (WA) partnership between the Western Australian Council for Safety and Quality in Health (WACSQ) and the Office of Safety and Quality in Health Care in Western Australia (OSQHCWA) successfully deployed an integrated, customised and State specific clinical governance framework, across the WA public health system. This initiative was partly in response to the Douglas Inquiry into the King Edward Memorial Hospital. Clinical governance was defined as: ‘a systemic and integrated approach to the improvement and review of clinical responsibility and accountability that improves quality and safety resulting in optimal patient outcomes’ (Department of Health Government of Western Australia, 2005, p. 2). The Western Australian Department of Health adopted the clinical governance model in recognition of the changed nature of health

care, consumer demand and the imperative of providing a dynamic health care system. The consumer was recognised as individuals who may not be actual recipients of care, but may include carers, friends and family who have a specific interest in health services (Department of Health Government of Western Australia, 2005).

In 2006, the clinical governance framework was reviewed. It was identified that barriers to implementing safety and quality initiatives included; the constant changing of internal governance and reporting structures; competing priorities and heavy workloads for clinical staff; and poor access to information technology and data for performance measurement purposes. In response to these issues the aim of the third Strategic Plan for Safety and Quality in Health 2008-2013 was to harmonise governance and accountability with patients taking a priority. Two key drivers of the process were identified as: leadership and governance structure and processes. These drivers were seen as flowing across the four pillars of: *consumer value*; *clinical performance and evaluation*; *clinical risk*; and *professional development and management* (Department of Health Government of Western Australia, 2008).

Consumer Value encourages health services to involve patients, carers and communities in maintaining and improving the performance of their health service and in the planning for the organisation's future. Effective consumer participation requires leadership to ensure that the involvement is valuable, effective and results in a positive outcome for the health of the population.

Clinical Performance and Evaluation encourages the progressive introduction, use, monitoring and evaluation of evidence-based clinical standards. The outcome is a culture where evaluation of organisational and clinical performance, including clinical audit is commonplace and expected in every clinical service. The three tools that will assist health services to achieve this outcome are Clinical Standards, Clinical Indicators and Clinical Audit.

Clinical Risk seeks to minimise clinical risk and improve overall clinical safety. This is achieved through the identification and reduction of potential risks and examination of clinical incidents/adverse events for causative and contributing factors and trends within and across health services. To maximise learning opportunities lessons should

be shared at a facility, Area Health Service and state-wide level.

Professional Development and Management supports the selection and recruitment of clinical staff, their ongoing professional development, the maintenance of their professional standards and the control and monitoring of new and innovative procedures. These processes ensure the appointment and ongoing employment of appropriately skilled and experienced staff and the careful introduction of new procedures (Department of Health Government of Western Australia, 2008, p. 8).

Implementation of effective leadership and governance structures and the four clinical governance pillars were underpinned by three other themes: communication; knowledge, and information. Communication was seen as pivotal to the whole process of clinical governance. That is communication between all stakeholders which included: health professionals, consumers, patients and their carers, and to the wider community. To maintain a continuum of care and across all levels of the health system, knowledge and information were seen as interacting across the spectrum (Department of Health WA, 2008). These concepts are represented pictorially in the following diagram (Figure 3.1).

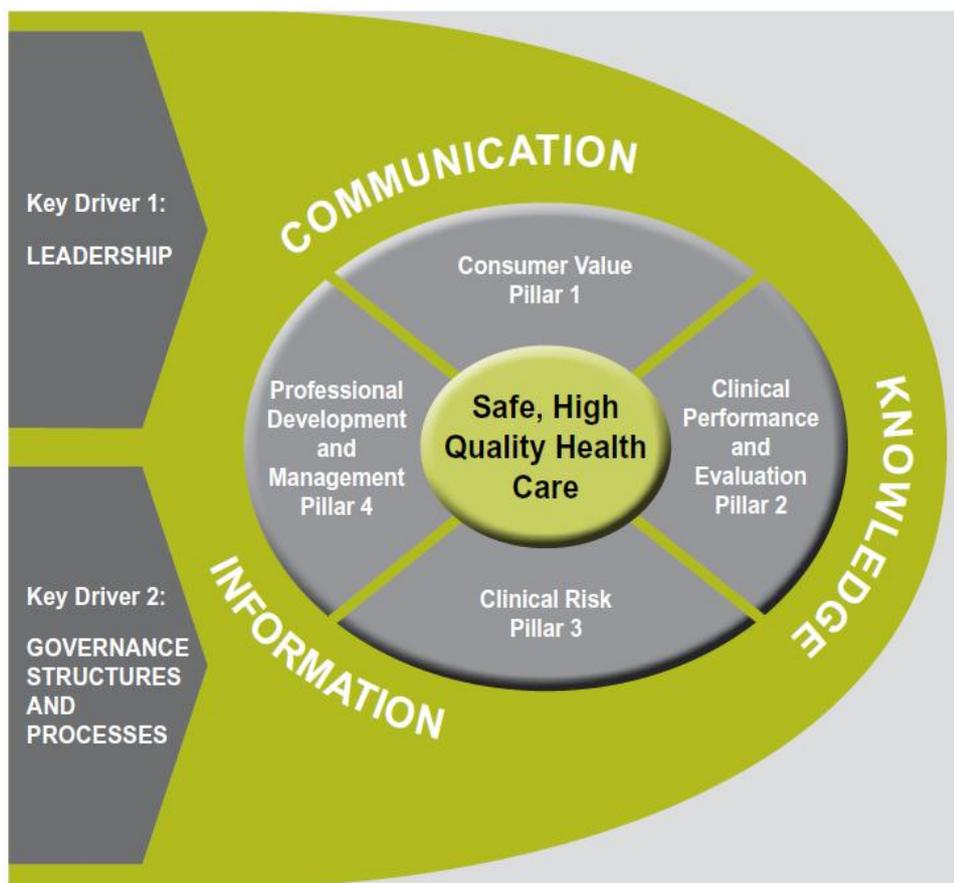


Figure 3.1 Strategic framework for safety and quality in health care 2008-2013 (WA strategic plan for safety and quality in health care 2008-2013: Placing patients first (p.8).

It is argued that if the quality of care is to be improved, nurses at the bed side should be involved and their experiences be considered (International Council of Nurses, 2000). Within a clinical governance framework nurses at all levels are able to influence improvements in practice, leading to an improved experience for patients (Royal College of Nursing, 2003). Clinical governance is not only about improving patient care, but also valuing staff. This can be achieved by providing a safe healthy and supportive working environment with time and resources for continuing professional development (Currie, Morrell, & Scrivener, 2003).

The descriptions of the clinical governance frameworks that have been discussed from the UK and Australia provide valuable resource information and background for the Saudi health system to consider in its health care quality framework. Thus Saudi Arabia can learn from the experience in the UK and Western Australia experience.

Complexity theory

In the past organisations have been studied as mechanistic systems with simple cause and effect linkages and predictable dynamics. In recent times, however, it has been realised that health care organisations are dynamic, living social systems created to organise activities and resources needed to provide care (Anderson, Crabtree, Steele, & McDaniel, 2005; Clancy, Effken, & Pesut, 2008; McDaniel & Driebe, 2001; Mickan & Boyce, 2006; P.E. Plsek & Wilson, 2001). Health care systems such as a hospital are complex entities where change and reforms are in a constant state of flux and where porous boundaries interact and respond to the environment (Anderson, et al., 2005; Chaffee & McNeill, 2007). Given this complexity, it is beneficial to recognise an open system approach which includes the impact of external factors to the organisation (Mickan & Boyce, 2006). Complexity science has emerged as the latest generations of systems thinking, which focuses on how order can emerge from a complex system (Holden, 2005).

Complexity science offers an alternative to existing paradigms, for making sense of contemporary challenges in management, investigating the patterns and their relationships extending beyond clinical processes and the skills of the health care professionals (Chaffee & McNeill, 2007; Holden, 2005). As such complexity theory can assist in explaining some of the findings of this study and provide a perspective on the key elements of the clinical governance framework as developed by the Health Department of Western Australia.

The technological and professional heterogeneity in health care organisations has been associated with the poor fit with the traditional management theory and difficulties in understanding health care organisations as a whole. Although health care depends largely on productive interaction between people and processes traditional organisation and management strategies have not reflected this perspective (Plsek, & Wilson, 2001). Complexity science offers a unique insight into the nature and functioning of health care organisations (McDaniel & Driebe, 2001). It is suggested that it is the intellectual successor to systems theory and chaos theory (Zimmerman, 1999). Furthermore, it is a collection of overlapping and complimentary theories from a variety of sciences (Chaffee & McNeill, 2007).

Complexity science looks at the wholes rather than the parts of the system in order to gain insight and a deeper, qualitative understanding of the phenomenon. Moreover, it is the study of patterns and relationships: the interaction between the parts, rather than objects and substance (McDaniel & Driebe, 2001,p.12). Complexity science has been used by disciplines such as biology, physics and mathematics; from which it evolved (Haigh, 2002; Plsek & Greenhalgh, 2001). It also has value in examining systems during times of rapid change such as the dynamic unsettling world of health care (Chaffee & McNeill, 2007; Holden, 2005).

The traditional rational approach to health care administration has focussed on control with employees performing the tasks they were employed to do in pursuit of management goals (McDaniel & Driebe, 2001). Health care organisations, however, are characterised by never ending ceaseless change and adaptation. 'Complexity means that there is structure with variations' (Goldenfeld & Kadanoff, 1999, p. 87). Visualised from the perspective of complexity theory, health care organisations are complex adaptive systems (CAS) (Anderson, et al., 2005; Clancy, et al., 2008; Plsek & Wilson, 2001). A CAS is a 'collection of individual agents with the freedom to act in ways that are not always totally predictable and whose actions are interconnected so that one agent's actions, changes the context for other agents' (Plsek & Greenhalgh, 2001, p. 625). In this way the CAS can learn and adapt overtime changing the structure of the system (Clancy, et al., 2008).

The CAS is composed of agents: people, processes and functional units that have the capacity to process, share and react to information (Holden, 2005; McDaniel & Driebe, 2001; Plsek & Greenhalgh, 2001). A CAS is embedded in other CASs, for example a nurse is an agent in the ICU which is a CAS in the hospital, which in itself is a CAS in the Saudi health care system. Since each CAS is nested in another CAS all evolving and interacting, a single factor cannot be understood and considered without the others (Chaffee & McNeill, 2007). It is this diversity that enables adaptability, creativity and change within the organisation. According to Casti and Andersen (1997) each agent pays attention to the local environment and is ignorant of the system as a whole. The central agent with responsibility for the organisation cannot control the behaviour of local agents nor predict the future.

Thus, the characteristic of a CAS is that there is ‘distributed control rather than central control’ (Zimmerman, Lindberg, & Plsek, 1998, p. 10). Self-organisation is a function of the interaction between agents, using simple rules in a non-linear fashion (McDaniel & Driebe, 2001; Holden, 2005). They interact locally in a dynamic, fashion with multiple feedback loops which are open to energy and information from the environment (Anderson & McDaniel, 2002).

The study of complexity involves the study of how order emerges from the agents interactions. They also operate under a set of rules that change over time as they gain experience through encounters with the environment and with each other. It is from this interaction that rules evolve, order emerges and patterns of behaviour become evident. At a human level, the rules can be expressed as instincts, constructs and mental models. These internal rules need not be shared, explicit, or even logical when viewed by another agent (Anderson, Issel, & McDaniel Jr, 2003). The hospital could thus be described as a densely connecting web of interacting agents each operating from its own local knowledge (Zimmerman, 1999).

Complexity theory is comfortable with and values the inherent tension between different parts of the system (Plsek, & Greenhalgh, 2001). Order is the result of the intensity and number of interactions between agents. A CAS interacts with and influences the development of the surrounding environment. Complexity scientists have labelled this ‘sensitive dependence on initial conditions’: a small difference in the initial variables leads to the huge difference in outcomes (Haigh, 2002; Holden, 2005; Plsek, & Greenhalgh, 2001). This coevolution is in a constant state of unpredictability, but can be understood in the patterns of behaviour and their probabilistic nature (Chaffee & McNeill, 2007). According to McDaniel and Driebe (2001, p.24) ‘you cannot control that which you cannot know and you cannot know the form and direction of a CAS’ because it is ever changing. Part of this not knowing is the diversity of information dispersed amongst the agents. Within this diversity, however, a pattern emerges. In complexity science this is called an attractor (Plsek, & Greenhalgh, 2001; Plsek, & Wilson, 2001).

The shift in a CAS is from control to making meaning and preparing the organisation to meet an unknowable future by unleashing the organisation’s potential

(McDaniel & Driebe, 2001). Health professionals are difficult to manage, and complexity science is not a panacea for correcting ‘wrongs’ and ‘making rights’, but rather it is an alternative perspective in understanding the hospital and the systems inherent in the organisation that influence the nurses’ ability to provide quality care. Viewed through the lens of a complexity model, CAS offers a new perspective on finding meaning in the hospital organisation and the ICU in particular. It can also provide an explanation of the formation of the clinical governance framework developed in Western Australia.

Competencies and standards of care

Basic to clinical governance is the setting and monitoring of standards for clinical care (Jorm, et al., 2008; Sanderson, 2000; Wolff & Taylor, 2009). From an industry perspective standardisation has been defined as the process of establishing agreed technical standards to achieve benefits for an organisation or industry (Leggat, 2008). In the health care sector standardisation is primarily directed at the competencies of health professionals (Glouberman & Mintzberg, 2001). The Australian Council on Health Care Standards defined a standard as:

A document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of an optimum degree of order (p.4).

As can be seen from the above definition standards reflect values that provide boundaries for professional practice that link care, quality and competence (Australian Nursing and Midwifery Council, 2006).

A competency can be defined as ‘any attribute of an individual that contributes to the achievement of excellence in a task, job, function or activity’ (Docking, 1992). Professional bodies and registration authorities dictate the competencies expected of their members. In nursing, competencies are based on the performance standards relevant to a specific practice setting. Competency standards describe the minimum knowledge skills, abilities and attitudes required for a beginning level nurse to

practice safely in a particular setting (Benner, 2001). Competencies also provide a guide for appropriate educational preparation and as a criterion for assessing the quality of clinical nursing care (Fisher, Marshall, & Kendrick, 2005). Basic to quality of care are formalized standards of care. These standards are set levels of actions within health services that are approved by professional consensus. These may include policies, rules and guidelines for routinely performed activities of care, for example, drug administration (Griffiths & Walker, 2008).

It is mandatory for all registered nurses in Australia to be competent to practice. Competency standards are used to assess performance to obtain and retain a license to practice including overseas nurses wishing to practice in Australia. They are used by universities to develop curricula and evaluate students undertaking preregistration programs. Additionally, the competency standards communicate to consumers of health care the standard they can expect from nurses wherever they practice. 'A registered nurse practices independently and interdependently assuming accountability and responsibility for their own actions and delegation to other health care workers in the context of care' (Australian Nursing and Midwifery Council, 2006).

Standards of professional care, clinical guidelines and protocols are developed from research, expert opinion and experience. This information when used by health professionals is defined as evidence-based practice (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Clinical care both from a nursing and medical perspective should be provided with the best available scientific evidence since it is argued that the use of clinical guidelines and protocols are effective in achieving better patient outcomes (Kollef et al., 1997).

A system of credentialing to ensure staff have the training and experience to safely undertake the clinical care they provide, and that this care continues to be provided to a high standard over time, was seen as critical in terms of quality health care. The importance of expertise cannot be over emphasised in proactively identifying risk in a clinical unit (Merry, 2008; Wolff & Taylor, 2009). In 2004, the Australian Commission on Safety and Quality Health Care (ACSQHC) developed

national standards for credentialing and defining the scope of clinical practice (Merry, 2008).

In 2010, nursing registration boards were subsumed into the Australian Health Practitioners Regulation Agency (AHPRA). This safety and quality initiative was introduced as a recommendation from the Productivity Commission Research Report (Productivity Commission, 2005). Currently, this agency under the authority of the Health Practitioner Regulation National Law Act 2009 is responsible for the registration and accreditation of health professionals across Australia. The primary role of the Board is to protect the public and set standards and policies, that all registered health practitioners are required to meet. This law means that ten health professions are regulated by a nationally consistent legislation. Amongst these ten professions are nursing and medicine (Australian Health Practitioners Regulation Agency, 2010). The national consistent registration relates to general competencies and those relating to midwifery, enrolled nurses and nurse practitioners. Colleges and professional associations have developed nursing specialty competencies in areas such as intensive care, perioperative and community.

Specialisation

Specialisation defines the extent to which tasks in an organisation are subdivided into separate jobs. In industry specialisation has been effective in improving production. In health care, however, an over-abundance of specialisation cuts across professional and functional boundaries (Leggat, 2008). Numerous health professionals work in a variety of medical specialties dealing with specific diseases or treatments. In nursing, specialisation is concerned with concentrating or delimiting one's focus to part of the whole field of nursing such as critical care. The intensive care unit is one such specialty where critical care nurses have specialised skills and knowledge and is the focus of this study.

An ICU is a dedicated area of the hospital managing patients with life threatening illnesses or injury and covers all ages of the population and includes postoperative units. It depends on the size of the hospital and its specialisation as to

the number of units it accommodates. The ICU operates with qualified dedicated medical and nursing staff under the guidance of defined policies and protocols (Bersten & Soni, 2009). Nurses play a crucial role in the overall care of critically ill patients in ICU (Williams et al., 2001). They provide 24 management and continuity of care and have been described as the 'glue' that holds critical care services together (Padilha et al., 2007; Welch & Theaker, 2009). Qualified ICU nurses, reduce morbidity and mortality, complications, errors and reduce overall costs (Robnett, 2006). They also serve as team leaders by delegating care according to patient's needs and each nurse's competence and scope of practice (Spilsbury & Meyer, 2001).

In tertiary hospitals, a ventilated patient requires a 1:1 nurse ratio with some complex care patients requiring 2 nurses (Australian & New Zealand Intensive Care Society, 2003; Lang, Hodge, Olson, Romano, & Krawvitz, 2004). Work overload and inadequate staffing ratios and inappropriate skill mix have contributed to the frequency of adverse events and of unsatisfactory patient outcomes (Tarnow-Mordi, Hau, Warden, & Shearer, 2000). Skill mix in health care has been defined as the mix of staff positions, levels of qualifications, experience and the expertise needed for a specified care environment (Buchan & Dal Poz, 2002).

Internationally, researchers have drawn attention to nursing skill mix, staffing, patient acuity, nursing workload and nursing education as factors affecting the quality of nursing in high technology care environments (L H Aiken, et al., 2002; Binnekade, Vroom, de Mol, & de Haan, 2003; Bostrom, Hall-Lord, Larsson, & Wilde, 1992; P Carayon & Gurses, 2005; Tarnow-Mordi, et al., 2000). Nurse shortages have shown to be associated with increased patient mortality, nurse burn out and adversely affect outcomes and job satisfaction (Beckmann, Baldwin, Durie, Morrison, & Shaw, 1998; Dang, Johantgen, Pronovost, Jenckes, & Bass, 2002; Tarnow-Mordi, et al., 2000; Ulrich et al., 2006). Direct observation and patient care are the keys to patient safety (Coombs & Lattimer, 2007). The 'gold' standard is ensuring that there is an appropriate number of nursing numbers and skill mix (American Association of Critical Care Nurses, 2005).

The high care acuity context of the ICU requires an adequate number of nurses with particular specialised knowledge and skills. The overall objective of skill mix is to achieve optimum patient care outcomes and an effective, flexible and cost-efficient use of nursing resources (McGillis Hall, 1997). The literature suggests an association between nursing skill mix and positive patient outcomes. The evidence, however, does not provide clear direction for an appropriate skill distribution within the team (Akkadechanunt, Scalzi, & Jawad, 2003). Furthermore, it may be difficult to apply the findings on staffing from one acute health care setting to another and from one culture to another. Some of these authors consider that a more in-depth study of the specific factors that impact on quality of care in these settings is needed (Binnekade, et al., 2003; Carayon & Alvarado, 2007; Dang, et al., 2002).

Nursing practice has evolved with the progress in medical technology, none more so than in the ICU. Whilst medical practitioners perform invasive procedures nurses are able to perform less invasive procedures such as transoesophageal Doppler ultrasonography for cardiac estimation (Welch & Theaker, 2009). In addition to the routine tasks and sophisticated monitoring, nurses are expected to make vital decisions in the ongoing adjustment and titration of fluids and inotropic drugs, together with trouble-shooting key treatments and administering appropriate therapies for the restoration of homeostasis (Welch & Theaker, 2009). The list of treatments that an ICU qualified nurses can administer has recently been extended in the UK. Since 2006 they are now able to prescribe licensed medicines for a whole range of conditions (Welch & Theaker, 2009).

Nurses working in ICUs need sharp critical thinking skills and assertiveness, to act in high stress, life-threatening situations. Often these nurses act with more authority than ward nurses as their work legitimises the urgent need for resources. Working in a comparatively confined shared space with high medical technology is complex, since it entails both physical and psychosocial skills, together with more social and political activities. Orienting frames, or conceptual schemas, have been suggested as resources for guiding the work of ICU nurses in ways that enhances safety. Such orienting frames are: being organised; being prepared for emergencies; and being responsible and accountable (Hazlehurst & McMullen, 2007). In a study aimed at exploring nurses' perception of safety in ICUs, it was found that 92% of

nurses used first order problem solving skills (Elder, et al., 2008). This type of problem solving deals with focusing on doing what it takes to continue care and involves people who the nurse feels comfortable with and who may not necessarily be the best person to solve the problem (Tucker, Edmondson, & Spear, 2002).

With the abundance of people working in the ICU it is not surprising that professional boundaries overlap making it difficult to manage care effectively (Leggat, 2008). In ICU, however, effective care is based on a multidisciplinary model. This model is based on: 'clear individual roles; members who share knowledge, skills, best practice learning; and systems that enable shared clinical governance individual and team accountability, risk analysis and management' (Department of Health-Emergency Care Team, 2005). Most medical interventions are affected by nurses, thus, teamwork is vital for quality care (Curtis, et al., 2006). Safety in health care is a function of teamwork and patient outcomes depends on the weakest link in the team; the team is everybody involved directly or indirectly with the care of the patient (Sorensen & Iedema, 2008).

Nurses have traditionally pursued high standards of care through education and regulation, including continuing education and professional development. They have, along with other health professionals, a duty to remain current in their knowledge and skills to provide quality care (Wolff & Taylor, 2009). A novice nurse has limited skill and or knowledge, inconsistent practice, variable interpersonal skills and a limited understanding of the wider context. Additionally, they often display inflexible rule-governed behavior (Benner, 2001). National nursing competencies for beginning practitioners are currently organised into four domains: professional practice, critical thinking and analysis; provision and coordination of care; and collaborative and therapeutic practice (Australian Nursing and Midwifery Council, 2006).

Novice nurses can specialise in critical care and work in the ICU, but they need to learn the requirements of the specialised role and advance to a proficient level of practice. At this level nurses effectively integrate theory and practice (Heartfield, 2006). Since the introduction of competency-based standards for critical care nurses have been developed, they have been utilised for critical care curricula, performance

assessment tools and as a model for professional development. Critical care nurses have also found competency-based standards useful for self-reflection on their professional practice (Australian College of Critical Care Nurses, 2002). Competency standards specific to ICU nurses are used in Canada, US, UK and Australia (Brilli et al., 2001; Dunn et al., 2000; Rose, Goldsworthy, O'Brien-Pallas, & Nelson, 2008; Underwood et al., 1996). The monitoring of standards of care in the ICU settings is essential to ensure quality of care and where standards are not met corrective intervention is necessary (Kuehn & Jackson, 1997).

Appropriate educational preparation for nurses to practice in an ICU is a fundamental factor impacting on quality nursing care and nurse retention (Beckmann, et al., 1998; Dang, et al., 2002; Elderkin, 2005). A lack of nurses educated in ICU practice has contributed to a nursing shortage (Binnekade, et al., 2003). This shortage could limit the capacity of ICUs and result in patients being denied safe care. The global shortage of nurses exacerbates this problem and is a major concern affecting the nursing profession and the future of nursing care in Saudi Arabia. Findings from an international study of 24 countries identified staffing levels, working conditions, education and wages as the most common issues for critical care nurses (Williams, et al., 2001).

To date, the Saudi Arabian nursing workforce supply has been unable to meet the needs of health services (Abou-Enien, 2002; Al-Hatem, 2007). This has resulted in a reliance on expatriate nurses filling staff shortages. Currently, approximately 66% of nurses employed in acute care hospitals, including ICUs, are recruited from overseas (Ministry of Health, 2009b). These nurses come from over 40 countries such as US, Australia, India, Nigeria, Philippines and various European nations (Abou-Enien, 2002). Consequently, their educational background and nursing experience varies widely (Halligan, 2006; Luna, 1998). Mobility of registered nurses and their immigration have raised concerns over safety associated with communication skills. Despite Filipino and Indian nurses using the English language as the medium during their training, they may have difficulty understanding and being understood. This is especially significant when listening to doctor's orders and medication administration (Yu Xu, 2005). A safety measure that is lost with nurses continual moving across wards and units is the recognition of and reporting of

adverse events (Wolff & Taylor, 2009). Nurses who have worked on a unit for a considerable amount of time will have witnessed and can recognise potential problems when they arise (Merry, 2008). This situation has major implications for nurse staffing and quality of care in ICUs, as well as in other health services in Saudi Arabia.

Measuring quality care in the ICU

Health professionals need quality management tools and techniques to enable them to assess the outcomes of their management decisions, what is required by their customers and whether their customers are satisfied with the service they provide (De Vos, et al., 2007). The emphasis is on the need for reliable information to monitor actual performance against standards. Key performance or clinical indicators have been used to identify potential suboptimal clinical care (De Vos, et al., 2007; Mainz, 2003; Merry, 2008). A clinical indicator is a measurable aspect of care based on scientific evidence that it represents quality (Wolff & Taylor, 2009).

A range of quality indicators have been developed that provide information from an individual, team and organizational performance. Such indicators include: clinical incident reporting, monitoring complaints and accolades, financial and quality reporting, performance reviews and recording of sickness and absence (Ledema, et al., 2005; McSherry & Pearce, 2007). Whilst quality indicators can provide insight into quality care and guide improvement, clinical indicators need to meet several criteria such as 'validity; reliability; responsiveness; relevance; significance; and utility' (De Vos, et al., 2007, p. 268).

Several clinical indicators have been identified for use in the ICU. Berenholtz, Dorman, Ngo and Pronovost (2002) conducted a literature search concluding that there were sixty-six studies that met the selection criteria and that reported a variety of interventions that were associated with improved patient outcomes. The interventions were subdivided into outcomes, process, access and complications. The authors further reviewed the list and implemented them into the clinical practice

with the result that a final list of eleven indicators were found to have possible beneficial influences on the quality of care in an ICU (De Vos, et al., 2007).

Most indicators have relied on statistical data which may be at the expense of qualitative data such as interpersonal aspects of care (Campbell, et al., 2000). Furthermore, studies have found that some clinical indicators bear little resemblance to quality (Brown & Lilford, 2006; Gibberd, Hancock, Howley, & Richards, 2004). There is also a risk that defining explicitly what is to be measured; health care organisations and professionals may be lulled into a false sense of security in that only these aspects of care will be measured (Campbell, et al., 2000). This finding resembles Elder, et al. (2008) study, which found that the perception of nurses in regards to safety matched the checklist used in management leadership. Furthermore, nurses were ambivalent about management's commitment to safety. Interestingly, Huddleson, et al. (2008), found that except for customer focus, medical practitioners and nurses when interviewed did not address the core principles of quality management proposed by professional bodies such as the European Foundation for Quality management. Additionally, Huddleson, et al. (2008) found that nurses or medical practitioners when interviewed about their perceptions on quality in the ICU rarely mentioned clinical guidelines.

Many of the studies into quality have used study instruments in which the researcher defined attributes of interest. Few studies used an inductive perspective to identify issues meaningful to the target group. In a qualitative aspect, Storesund and McMurray (2009) provide an overview of quality practice in ICU using ethnographic case study approach. Furthermore, Wes, Mays, Rafferty Rowan and Sanderson (2009) provided a systematic review of literature related to patients' out comes in the ICU. One study using qualitative methodology, explored what medical practitioners and nurses thought about quality in a large University Hospital in Geneva. Findings suggested that there was a degree of similarity between participants in that they placed emphasis on the human aspects of care, whilst technical aspects were considered necessary, but insufficient on their own. Quality was seen as the intersection between technical and human aspects of care. Technical competency coupled with personal motivation and goodwill, were considered to be fundamental to the provision of care. Major obstacles were based on the institutions' decisions

such as those dealing with inadequate staffing, an increase in administrative tasks, insufficient resources, and imposing excessive administrative burdens (Hudelson, et al., 2008). A further study determined that that nurses believed that they could protect patients because of their commitment to the job and their personal abilities (Elder, et al., 2008). In a grounded theory study, it was found that quality health care was perceived to relate to the degree to which patient's physical, psychological and extra care needs were met. Moreover, nurses in the study identified that they were consistently unable to provide quality nursing care to all patients (Williams, 1998).

Summary

Initially this review looked at the concept of quality and its usage in industry and health care services. There was a general agreement that quality health care is multifaceted, but that it is essentially related to doing the right thing for the right person in a safe environment to achieve optimal health. Translation of this notion to the clinical arena, however, has been fraught with challenges. None the least have been the traditional hierarchy and bureaucracy of hospitals.

Commencing from QA, and its audit checklist based principles, to TQM, the focus has been on management rather than clinicians who provide front line care. This is viewed as a dichotomy that has caused a chasm in health care organisations, which some have related organisations following the US lead. Whilst some systems have had a measure of success, generally, the deficit in robust research has caused skepticism especially amongst medical practitioners. Much of the literature identified that the failure of QA and TQM was associated with the culture of the organisation in that it did not change people's attitude to quality improvement. Rather health professionals perceived it to be an individual responsibility without management interference.

Clinical governance is a framework that ensures individual responsibility for quality health care. It too depends on the entire organisation being accountable for clinical quality. The benefits are at both the managerial and clinical level with

involvement of clinicians seen as vital to the process. In the context of clinical governance, clinicians include professional nurses.

At the heart of quality care, as perceived by medical practitioners and nurses, is the knowledge and ability to follow standards set by registering authorities. Although all Australian nurses are required to fulfill the competencies of a beginning practitioner, from a specialist perspective such as ICU, these skills are generic. Thus, to function effectively as a critical care nurse extra knowledge and skills must be learnt. Given that registered nurses in the ICU provide one-to-one 24 hour care for patients, despite the plethora of literature on management strategies for improving care, few studies have investigated the influences which enabled them to provide continuous quality care. The clinical governance framework was used to set the context of the study. During the study as other concepts, theories or frameworks emerged from the collected data they were considered for their relevance and influence on the study's findings.

CHAPTER FOUR

Methodology

Introduction

This chapter provides an overview of the methodological design for this study. The rationale for selecting an exploratory and descriptive case study is presented. It also describes the approach taken to answer the research question. The chapter covers data collection, data analysis and the ethical consideration.

Study Design

A research design describes a blueprint that guides the researcher through a logical sequence of inquiry. The choice results from the research problem, the kind of questions being asked, and the ability to control variables (Merriam, 1988; Polit & Beck, 2010). A researcher following a systematic process is able to make connections between the research question, the data, and the analysis of data. It has been suggested that the first and most important condition for differentiating between the appropriate research designs is to classify the research question. If the research question is mainly of 'what' type, then an exploratory study is justifiable especially if the aim is to develop a hypothesis and proposition for further inquiry (Yin, 2009).

A diagram depicting the design of this study is illustrated in figure (4.1). The main question for this study was: what factors influence the quality of nursing care in an intensive care unit in Saudi Arabia? From this question it was decided that a qualitative approach was appropriate.

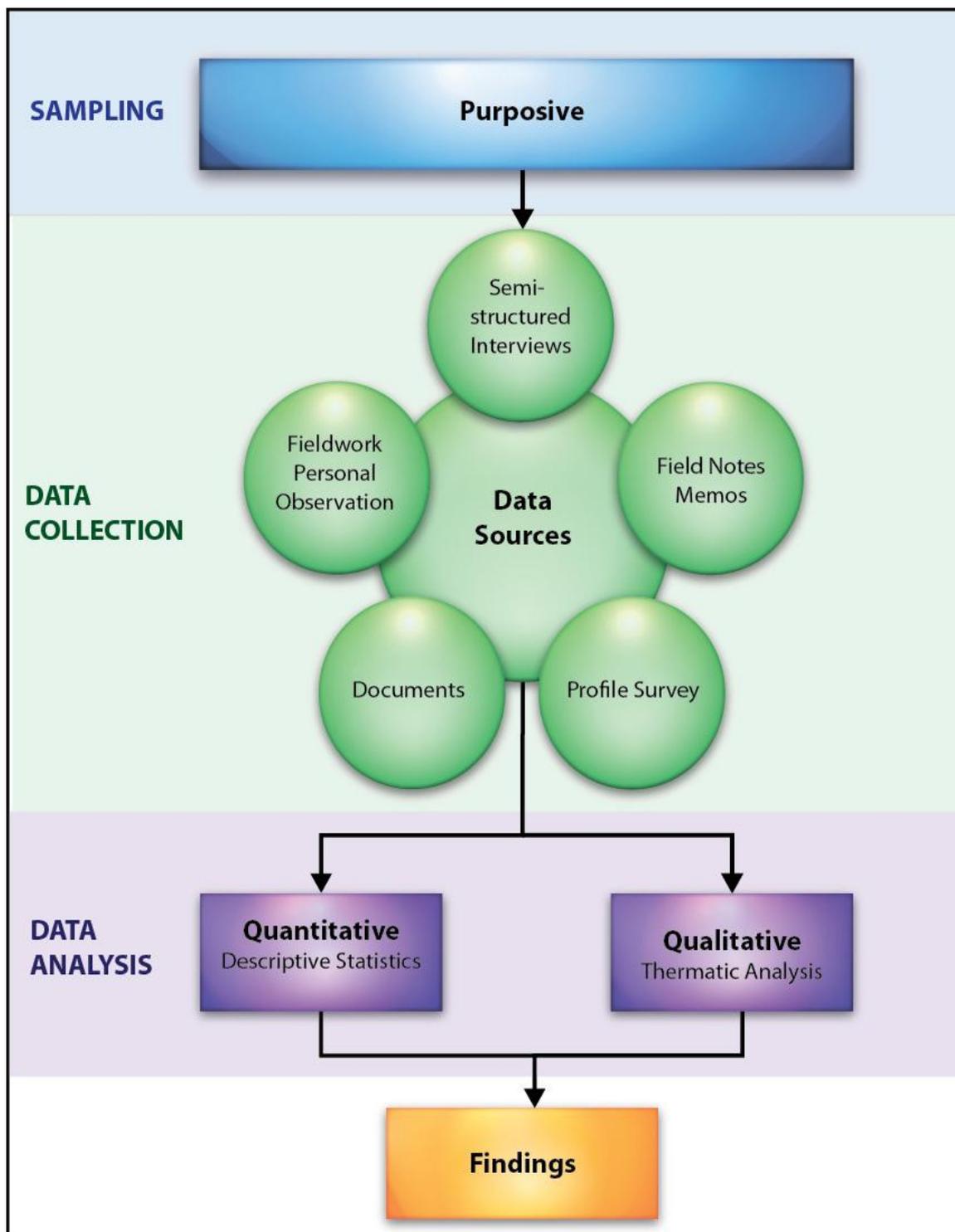


Figure 4.1 Research design

Discussion on the qualitative research and case study methodology is continued in the following section.

Qualitative research

Qualitative research uses non-experimental design uncovering and explaining a phenomenon in its natural setting (Merriam, 1988, 2009). A natural setting facilitates an understanding of an aspect of social life in its lived context, as events happen and, the situations as they occur in the day-to-day culture of the setting (Polit & Beck, 2010; Woods, 1999). The natural setting chosen for this study was an ICU in a major regional hospital of Saudi Arabia. The researcher collects data from participants and attempts to reveal, through detailed description and systematic analysis, a view of reality from within the setting (Merriam, 2009; Woods, 1999).

A feature of qualitative research is recognising meaning and perspective, which relates to what is significant to the participants. The role of the researcher is to discover the meaning in the patterns of behaviour and the relevance to the participants (Stake, 2010). Thus, the researcher needs to be sensitive to the various perspectives that may change over time. The researcher also has to be observant over an extended time and be close to participants endeavouring to view their world learning the contradictions and ambiguities therein (Glaser & Strauss, 2007; Hennik, Hutter & Bailey, 2010; Woods, 1999).

A significant feature of qualitative designs is the emphasis on process rather than the end product (Woods, 1999). For example in this study the researcher explored how the participants developed an understanding and meaning in the context of their work; how nurses roles were acquired and how they adapted. Specifically the context of ICU staff perspectives and experiences change overtime.

Qualitative research uses an inductive approach. In such an approach, the data are generated from exposure to the setting and the participants (Stake, 2010; Woods, 1999). It also generates additional questions that are only apparent as the study progresses. Thus, in this study by observation of interactions between staff, and between staff and patients, insights are gleaned and questions arise about what is meaningful to participants in the natural surroundings in which they practice. It is from this particular situation more general conclusion can be offered (Glaser & Strauss, 2007; Woods, 1999).

It has been suggested that a thesis should follow one major methodology which suits the research problem (Perry, 1998). Secondary methods, however, can be used to more fully answer the research question. The main methodology employed to answer the research question for this thesis is a case study using a qualitative approach with some quantifiable elements.

Case study

Case study is defined as ‘an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident’ (Yin, 2009, p. 18). This research methodology can be used for the ‘examination of specific phenomena such as a program, an event, a person, a process, an institution, or a social group’ (Merriam, 1988, p. 9). An alternative definition is that case study is an exploration of bounded system using in-depth data from multiple sources (Creswell, 1998). The bounded system, otherwise known as a case, is the distinguishing characteristic of case study, which has been utilised in various disciplines including law, education, medicine, nursing, and psychology (Hakim, 1987; Hamel, 1993; Merriam, 1988; Yin, 2009).

In this study, the focus of the case was the influences on quality care provided by nurses in an ICU setting in Saudi Arabia. Generally, registered nurses in an ICU, practice in a multilayered system that includes the hospital, the national health care system, the culture of the country, and the wider international context (Figure 4.2). Whilst the boundaries between each of these entities is blurred, this thesis proposes that they directly and indirectly influence the quality of care nurse provide.

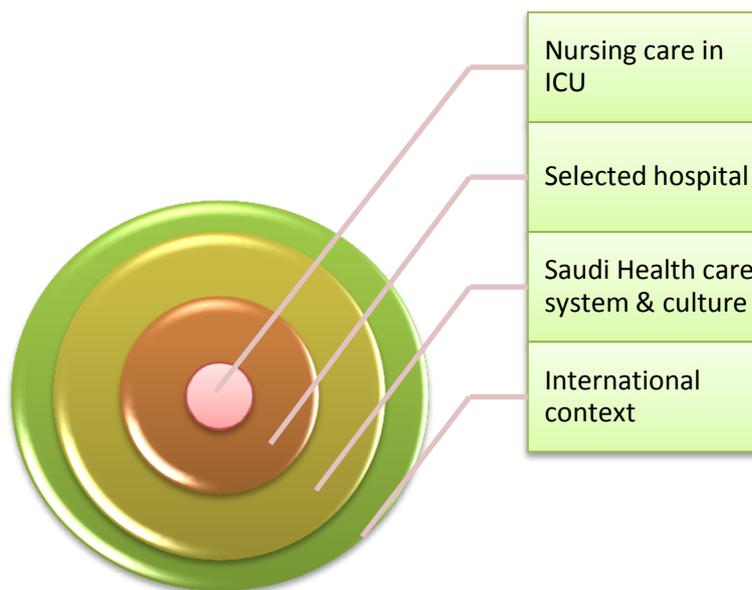


Figure 4.2 The boundaries of the case

Classically, case study research can use both quantitative and qualitative methods of data collection (Huberman & Miles, 2002; Marshall & Rossman, 1989; Yin, 2009). It relies on multiple sources of evidence with convergence of data whilst relinquishing control or manipulation of the environment (Yin, 2003). It is from this perspective it could be argued that a qualitative approach is more generally used in case study research where convergent evidence is sought regarding the facts and the conclusion of the case (Yin, 2009). A rationale for choosing a case study approach is appropriate for a revelatory case. Such cases seek to investigate a phenomenon of concern that has not been previously studied, as in this case study, where the influences on the quality of nursing care in an ICU setting in Saudi Arabia, have not been formerly researched.

Three types of case study designs have been identified in the literature (Gray, 2009). These are, exploratory, descriptive and explanatory. Exploratory case studies are used to define a research question or to test the practicality for future studies. Descriptive case studies attempt to reveal a scrupulous description of a specific phenomenon in its context. Explanatory case studies endeavour to explain the cause and effect of a specific interaction (Gray, 2009). For this study a mixture of an exploratory and descriptive approach was used, since these types were more in line

with qualitative methods of research and will add a significant addition to the literature.

There are three conditions which drive the choice for a case study approach. Firstly, a study should begin with a problem that needs to be solved and it poses a research question to be investigated. Secondly, a case study has a contemporary focus in that it is designed to investigate previously unexplored areas of social and institutional life (Merriam, 1988; Yin, 2009). Currently, although the concept of quality of care is relatively new with the increasing demand for ICUs in Saudi Arabia, it has become an area of major concern for hospital services. Thirdly, case study approach allows the examination of a phenomenon within its naturalistic context, a condition that is inherent in qualitative research. The researcher collects data in the naturalistic setting and in this study whilst nurse participants were working in the ICU. Given these three conditions it was appropriate that a case study approach was used for this study using a mixed method, qualitative perspective and supportive quantitative data.

In the design phase of a case study approach, it is necessary to construct a preliminary study proposition since it acts as a blueprint for guiding the research and keeps the study within feasible limits (Yin, 2009). It is not a grand theory, rather ‘a hypothetical story about why acts, events, structures and thoughts occur’ (Sutton & Staw, 1995, p. 378). The proposition taken in this case study was that “*multiple factors influence the quality care registered nurses provide in an ICU setting. It is an assumption that these could be internal as well as external to the ICU*”. Such a proposition relates to the bounded system in which ICU nurses work.

The setting

The selected setting for this study was in a 450 bed major public regional hospital, similar to, and adequately representative of, the public hospitals in Saudi Arabia. This similarity was based on the size, type of patients, staffing and ICU requirements. The ICU setting for this study was a 36-bed high acuity adult medical/surgical patient unit, which accepted the most serious and life-threatening

cases from all 15 local hospitals in the province (see Appendix A). The unit, was located in a new building, and composed of single occupancy rooms where the layout of the ICU allowed constant observation and easy access to patients. It had four nursing stations from which nurses could view and monitor patients. Each individual patient monitor was connected to a central monitor in the main station. These monitors were attached to the patients, to continuously display and record vital signs. The ICU was equipped with modern technology. Highly sophisticated technology was installed in the new part of the hospital. This technology included fully adjustable state-of-the art electric beds. Beside each bed, was a cabinet and a chair. The patient's record was kept on the bedside table. At one side of the bed was shelving to hold disposable items and other supplies for regular use. Other modern equipment included ventilators and intravenous pumps. Some equipment, however, although frequently used was outdated, such as suction apparatus and the Electro Cardio Graph (ECG) machine. Maintenance of the equipment was a responsibility of the biomedical technicians and for specific equipment company representatives were responsible for routine inspection and maintenance. The technician and company representative attended on request to deal with machine faults.

Normally, the majority of ICU beds were occupied by medical and surgical patients requiring highly specialized care with ventilators and or continuous monitoring. At the time of the fieldwork, there was 75% occupancy. Medical cases were patients with chronic diseases who were in a life threatening condition such as end-stage renal disease, cerebral vascular accident, complications of diabetes type two, and chronic obstructive pulmonary disease. Trauma accounted for the majority of surgical patients. Life threatening conditions included major, head, spinal and abdominal injuries. Many trauma patients had multiple injuries. Most of the trauma patients were a result of road traffic accidents and work related injuries. The balance between medical and surgical patients in the ICU fluctuated over time.

The ICU was staffed by: nurse aides, registered nurses, medical practitioners, and other health professionals, such as physiotherapist and respiratory therapists. In addition, the ICU medical Director worked full-time and attended the unit during the daytime hours. He authorised admissions to the ICU. On the evening and night

shifts one resident medical practitioner was assigned to the ICU and was present for all shifts.

The nursing staff in the ICU, were recruited from within Saudi Arabia, and also from many other countries, such as India, South Africa and Philippines. Overseas nurses had various educational and experiential backgrounds and were from diverse cultures. The registered nurses were responsible for the continuous monitoring and management of the critically ill patients. The nurse/patient ratio was 1:1 or 1:2. The ratio allocation depended on patient acuity and staff availability. When there was a nursing staff shortage, which was common, then it was more likely for the ratio to be 1:2 irrespective of a nurses' level of expertise.

Nurses were employed fulltime and worked in three shifts: morning; afternoon; and night, with each shift being eight hours. The unit was supervised by the Director and assisted by the Head Nurse. In addition, a charge nurse was assigned on an evening and night shift to coordinate the unit. The ICU head nurse was responsible for nurses' development together with quality, policy and practice and was accountable to the Nursing Director and the ICU Director for patient care.

Access to the setting

In the pre-entry phase to the setting, the researcher forwarded the study proposal to the MOH Biological Ethics Committee in Saudi Arabia. This approval was in addition to the Curtin University, Human Research Ethics Committee, which is described at the end of the chapter. The MOH approved the study proposal and, in turn, requested approval from the selected hospital (see Appendix B). Once this was obtained, a separate letter was forwarded to the Head Nurse in ICU explaining the purpose of the study and requesting that notification of the study be posted on the staff notice board. Additionally, the researcher sought permission to undertake field observation in the unit. Prior to the collection of data, the researcher met with the Hospital Director, the Medical Director and the Director of Nursing. At this meeting, clarification of the study was given together with an outline of the major steps that would be taken to collect data.

Following the meeting with hospital administrators, the researcher visited the Head Nurse of ICU and the ICU Director, to organize a presentation concerning the value of research within the Saudi health care system. It was directed to prospective participants in the ICU. The presentation also aimed to clarify the nature and expectations of the study with potential participants to allow for discussion and to build a rapport. The presentation was planned to coincide with the end of the three shifts, to allow all nurses in the ICU the opportunity to attend. Following the presentation, a profile survey was distributed to attendees who were advised to place the completed survey in a box at the ICU reception, or to hand it back to the researcher. Additionally, the profile survey was made available at reception to other nurses not attending the presentation in order to maximize participation in order to gauge a profile of all nurses working in the ICU. Both the profile survey and the advertisement on the notice board invited prospective participants to an individual interview (see Appendix C and D).

Sample

This study used a purposive sampling strategy. This sampling strategy is a non-probability sampling where a random selection of participant does not occur (Streubert Speziale & Carpenter, 2003). It is a sampling technique often used in qualitative research and is designed to expand the existing knowledge through consciously selecting participants who are known to have rich information about the phenomenon under study (Patton, 2002; Reed, Procter, & Murray, 1996).

Individual selection of participants for this study was based on the researcher's first-hand experience within the setting. Criteria for participation included registered nurses who had at least three months of experience in the selected ICU setting and who had a good command of English. Nurses recently recruited to the ICU and who were in an orientation program were excluded. By targeting ICU nurses the researcher made a deliberate selection and choice of participants who would provide useful and pertinent information to answer the research question.

The same direct technique was used to identify management personnel who were responsible for implementing and monitoring quality assurance strategies. It was deemed necessary to include these people to provide a complete picture of all potential factors that might have influenced quality care in the ICU. Thus, to examine different views and establish an additional line of evidence various senior managers were approached. These participants included the Hospital Director, Quality Improvement and Patient Safety Director, the Staff Training and Development Director, the Hospital Nursing Director, the ICU Director, and the ICU Head Nurse. These were purposively selected for the study as they held promotional positions.

An additional strategy for purposeful sampling employed in this study was snowballing (Patton, 2002). The snowballing technique is suggested when it is hard to identify participants (Biernacki & Waldford, 1981; Patton, 2002). In this study there were three different nationalities with various work experiences and different qualification. Thus, the researcher began by identifying nurses that met the study inclusion criteria and then requested them to advertise the study to their colleagues, in an effort to find more participants. This technique proved beneficial in covering all the shifts worked by the nurses in the ICU. A total of five participants were recruited using this technique.

Data collection

In keeping with the single case study design, multiple methods of data collection were used in this study to allow for a broad range of relevant issues to be investigated (Schwandt, 2001; Yin, 2009). There were five types of concurrent data including: **profile survey** of all ICU nurses prior to in depth, face-to-face **interviews** (with ICU nurses, and hospital administrators), screening of pertinent **documents**, and **field observations** of nurses in the ICU. Using these multiple sources of data collection, facilitated a converging line of inquiry and added to the trustworthiness of data (Sandelowski, 1993; Taylor, Kermonds, & Roberts, 2007; Yin, 2003). Interviews with nurse participants continued until saturation reached. After 18

interviews there were no new information came out, however, researcher continued with other three nurses participants.

Additionally, the researcher recorded chronological events together with concurrent experiences and insights into a journal. Memos were used to record thoughts that arose from interviews, observed interactions between staff, and document information. This activity aided interpretation of data and kept the researcher on track. The journal records were later organized into categories that assisted in the analysis of data.

Profile survey

A survey was designed to profile all ICU nurses (see Appendix C). It consisted of demographic data such as age, gender, and nationality together with the participants' level of education and information related to the experience in ICU. The design of the survey was driven by the research objectives. Two experts in research, both with a PhD in nursing and six Saudi Arabian ICU nurses reviewed the survey for content validity. Modifications were made following their suggestions. The survey was designed to provide information relating to ICU staff. Factors such as nationality, qualifications, educational preparation and practice experience were included. Two weeks following the initial announcement of the study a second flyer was posted on the ICU notice board. In addition to facilitate an increased response rate, the researcher asked the Head Nurse, as well as the Charge Nurses, to encourage staff to complete the profile survey.

According to Fowler (2002), a key purpose for conducting surveys is to gather data by questioning a majority of the study population. Fowler stated, 'The main way of collecting information is by asking people questions; the answers constitute the data to be analysed' (Fowler, 2002, p. 1). Fowler goes onto state that a key to good sampling is, "... finding a way to give all (or nearly all) population members the same (or a known) chance of being sampled ..." (Fowler, 2002, p. 5). This approach was taken for the profile survey in that every nurse employed in the ICU that meet the inclusion criteria, were invited to participate and be interviewed. In keeping with the purpose of this research, the profile survey was limited to registered nurses within the ICU.

Interviews

Interviews are one of the most important sources of collecting data in qualitative research and are particularly pertinent to the case study approach. Interviews aim to record the opinion, emotions, experiences, feelings, and the accounts of the participants. They also provide the opportunity to contextualise the actions the researcher has observed and offers a chance for understanding culture through language and expression (Fetterman, 2009). Interviews offer several benefits including the gathering of large amounts of data, as in open-ended questions, in a short space of time (Marshall & Rossman, 2011). Moreover, during the interview the researcher is able to clarify any ambiguous points (Polit & Hungler, 1995).

A semi-structured, in depth, face-to-face interview was conducted with the eligible ICU nurses who accepted the invitation to participate in the study (see Appendix E) for interview schedule. Following a brief introduction of the research study, all participants were asked to sign a consent form and complete demographic information that was separate to the profile survey. This information was useful to gain an idea about the variability of experiences, various positions participants occupied. It was also an effective way to begin the interview, as it created a good rapport by decreasing the participants possible apprehension.

The interview schedule was logged in a journal and kept the researcher on track, as the evidence unfolded and accumulated. The interviews lasted between 60 to 90 minutes, depending on the length of participants' responses, and were digitally recorded. Interviews were arranged and conducted in an office in the ICU at a convenient time to both the researcher and the participants. By choosing the familiarity of the practice location for interviews, the researcher aimed to provide nurses with an interview setting that was comfortable and where they would be better able give the researcher an insight into their work world. Also by choosing the ICU, the researcher was able to create an environment where the nurses could share their own stories, build upon previous experiences, and visualize themselves in real situations.

The second set of semi-structured, in-depth, face to face interviews were with the management staff. The term management, manager and director was attached to any of the number of people within the hospital, which could have potentially caused confusion as to who was being referenced. In this study, however, management refers to the Hospital Director and clinicians who had both a management and clinical role. These participants were personally approached and invited to participate in the study. All accepted the invitation except the DON, who declined even though an initial agreement was obtain for an interview to take place. Interviews with managers were usually conducted in their offices, or in the conference room, and were not prefaced with a profile question. It was anticipated that the information gained in the interview would be needed to make inferences in connection with the research question, and in light of the manager's role in implementing quality control measures.

The researcher allowed participants to elaborate on their responses and further questions were asked for clarification. Throughout the interview the researcher frequently restated the participant's responses to validate their meaning and gain more in-depth understanding. On completion of the interview, participants were asked for permission to be contacted in the future, if needed, to further clarify and to follow up on the information. This activity was aided by using the memos recorded in the researcher's journal. Such memos included 'analysis, thoughts, interpretations, questions and directions-for further data collection' (Strauss & Corbin, 1998, p. 110).

Documents

The collection and analysis of document data for this research was necessary in order to present an understanding of the ways in which the hospital organization was represented. The importance of documentary records is that they provide an objective statement of management activities, such as policies. It has been suggested that records construct a 'documentary reality' of 'objective factual statements' rather than 'merely personal belief' as verbally spoken words may do (Hammersley & Atkinson, 1995, p. 173). The documents collected and perused in this study

included, but were not limited to the hospital mission and vision statement, policies, procedures, and other documents such as written records and reports, related to interaction between teams. Also included were letters, memos and announcements between management and staff. Documents relevant to quality improvement, were scanned and reviewed with permission from the appropriate authorities. Materials such as the organisational chart, brochures, and posters were also collected to substantiate the hospital efforts regarding its involvement in quality improvement process. Requests were made for previous committees meetings concerning audits and quality issues. Finally, the researcher searched for documents to provide an indication of involvement in accreditation. The documents were checked for genuineness and authenticity prior to being filed for analysis (Streubert Speziale & Carpenter, 2003).

Field observation

Researchers conduct field observation as a form of data collection solely, or in conjunction with other methods, including validating data. Field observation can also be employed in a structured or unstructured way (Mulhall, 2003). The decision of which method to use, is determined to some extent by the research question, but more importantly by the research paradigm. The structured approach is usually used in quantitative research. Such research uses observation schedules that have been developed from established theory to record both verbal and physical behaviours. Unstructured field observation, which was used in this study, is recommended where the aim is to understand and interpret behaviours within a naturalistic paradigm: the context and the structure of knowledge between researcher and participants (Mulhall, 2003). The researcher used unstructured observation and entered the field without prior knowledge of what he might have observed, but had some ideas of certain things to note as he had worked in an ICU but in a different hospital. As the research progressed the researcher adapted to the setting often altering and changing ideas, but kept focused on the research question, as suggested by Bernard (2006).

Unstructured field observations were conducted concurrently with interviews and document analysis. The observation occurred on each shift with nurses and

nurse managers in the ICU. The researcher interacted and discussed the care provided to patients and issues pertaining to nursing practice. The researcher recorded the expressed feelings, experiences and perspective of participant's world-view (Yin, 2009). All interactions were recorded chronologically in the field notes and kept separate from journal notes. To ensure accuracy the observations and interviews were written in the field notes immediately (Patton, 1990). All data gathering involved a cyclical pattern, moving between documents, interviews and observations. This process enabled the researcher to obtain rich data and add insights into the research question (Bardach, 1974). In order to reduce researcher bias conflicting data was explored and noted for further checking against other sources of information. Additionally, the researcher conducted 'member checks' which refers to the researcher returning the findings to the participants for their validation (Sandelowski, 1993). Throughout data collection, it was checked for contradictions, inferences, convergent and supportive evidence in an interpretive manner (Yin, 2003).

Data analysis

In case study research it is recommended that there should be a general analytical strategy which would address all the evidence (the data set), all major alternative interpretations and the most significant aspect of the case (Yin, 2009). Data analysis was commenced early in the study during the process of reading, theorising and writing (Coffey & Atkinson, 1996; Rice & Ezzy, 2000). The preferred strategy in the case study approach is to follow the study proposition and answer the research question (see Figure 4.1). The research question was 'what are the factors which influence the quality of nursing care in an ICU in Saudi'? In this study although both the profile questionnaire and the demographic data were quantifiable, the majority of the data set was qualitative. These approaches required different methods of analysis.

Data from the profile survey was collected from nurses employed in the ICU at the time of the study. The statistical Package for Social science (SPSS) version 17 for Windows was used for data entry, management and analysis. Descriptive

statistics were calculated to describe the characteristics of ICU nurses. Frequencies were tabulated. The characteristics of expatriate nurses were compared using chi-square test and Fisher's exact test, where applicable. Some of the categories in each factor associated with post-basic nursing qualifications were grouped, making it possible to perform chi-square analysis. For 2x2 tables with small cell sizes, the Fisher's exact test was employed. Two sided tests were used and p values of .05 or less were taken to be statistically significant.

In the qualitative aspects of the study, thematic analysis method was used, which provided a rich detailed account of the perceptions and experiences of participants in the study (Bernard, 2006). In qualitative inquiry the researcher plays an active role in integrating and interpreting the data. Such a stance enables a researcher to make sense and gain meaning from the data. The 'ascribed status influences the meanings of the subjectiveness' and determines what the researcher sees. Whilst an outsider or somebody far removed from the time frame can give an objective interpretation, it is argued that only those researchers emerging from the life worlds of their subjects can adequately interpret such experience. Accordingly, the following description of the researcher's personal profile will enable the reader to understand the location of the researcher within the context of this study.

The researcher has had nine years of nursing and teaching experience in Saudi Arabia. He has worked in various departments including ER, ICU and OR, in two hospitals one major public and one tertiary regional hospital. While working in these hospitals his roles have varied from staff nurse, charge nurse and nurse manager. Currently, all public hospitals are managed by the MOH, thus, there are similarities in policies including strategies for quality improvement.

During the analysis phase of the study, the researcher was actively engaged in an ongoing reflexive dialogue with the data: thinking and creating links in order to identify and interpret themes. A deductive approach was used in that the researcher theoretical interest in quality nursing care in the ICU had been studied in the literature prior to and during the analysis phase of the study. It was argued that engaging with the literature can enhance analysis by sensitizing to subtle features of the data. The literature was once again reviewed during the discussion phase of the

thesis, in light of the findings from the analysis. The researcher's personal bias was kept separate by bracketing, in the journal, personal experience and assumptions that could influence his views and interpretation of the data (Fischer, 2009). The aim was to set aside the researcher's beliefs for a period of time, so that he could 'see' and 'hear' without interruption (Munhall, 1994). This was a difficult process, but a constant dialogue with the supervisors kept the researcher focused on the study's proposition and research question. The researcher followed the six phases of thematic analysis, as described by Braun and Clarke (2006). A description of each phase of analysis is illustrated in the following diagram (See Figure 4.3).

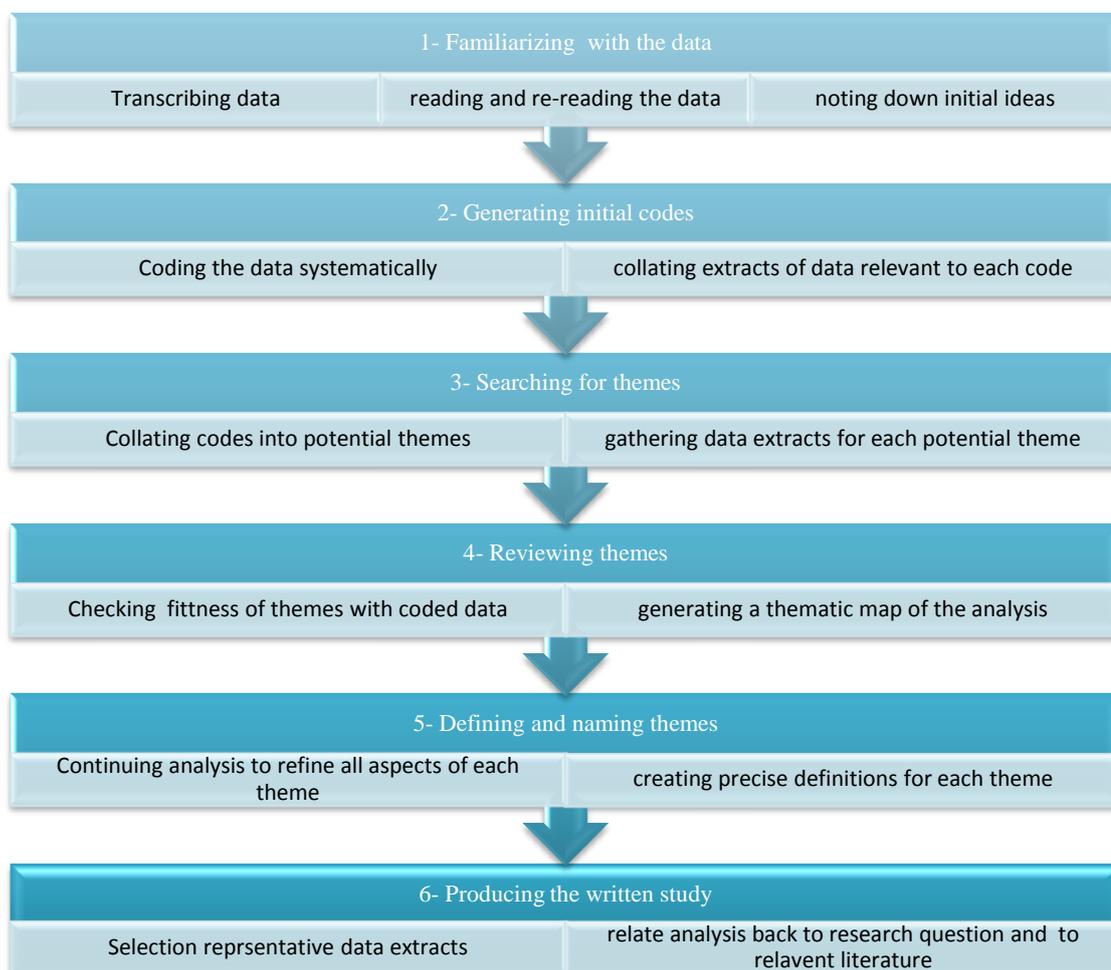


Figure 4.3 Thematic analysis phases (Braun & Clarke, 2006).

The first phase of thematic analysis focused on gaining a close familiarity and understanding of all the data collected. It involved listening to the entire audiotape

of each interview and transcribing it verbatim into written text. A piece of A4 paper in the landscape layout was divided into 3 sections with the transcript being typed into the first section forming a column of six words per line. Each interview was transcribed word for word including nuances such as ‘amm’, ‘ah’: etcetera. The transcripts were then compared with the audiotape as a process for validation and trustworthiness. This process was particularly important as English was not the first language for the researcher, or the participants, but common to all staff employed in the ICU. Continually listening and reading searching for meaning, finding similarities, differences and to ascertain any emerging patterns, enabled the researcher to get immersed in the data. Field notes consisting of preliminary interpretations and ideas that emerged were continually written beside the data during the repeated readings. Likewise pertinent documents were scanned, scrutinised and notes made in the margins; linking field notes and interviews relevant to the research question. Phase one provided the bedrock for the following phases of analysis.

The second phase involved the production of codes. These were basic sets of raw data in the transcript that were interesting and meaningful to the research topic. Codes consisted of terms, labels and phrases that captured the essence of meaning and that could be clearly identified by the researcher later. Each line of the transcript was read and specific questions related to answering the research question were posed and a code applied. Extracts of data from which codes were derived were highlighted to ensure retention of context.

Whilst the researcher performed coding manually, QRS NVivo 8 computer software program was later used to manage, shape, make sense of the data and generate reports. It classified, sorted and arranged information which enabled the researcher to glean insights, link ideas and develop meaningful conclusions. By using both methods of coding the researcher was able to manage the large amounts of diverse evidence collected and enhance the trustworthiness of the findings. Even though the use of computer software assisted the categorization of data the researcher was active in moving from description to interpretation in an attempt to theories the significance of the patterns and their broader meaning and implications (Patton, 2002).

The third phase involved searching for themes from the large number of generated codes. This meant sorting and organizing the codes into a manageable and logical form on a separate sheet of paper to the transcript. Some codes combined to form conceptual categories and sub-categories of meaning, whilst others had codes that did not seem to fit anywhere. These variations and exceptions to the predominant patterns were noted to be later combined refined or discarded. Relationships between codes and how they linked together were sought forming patterns with each theme being allocated a working title. The compiled and charted data were re-arranged within the theme into an interpretative sequence that moved between description and analytic abstraction. This was a process of ‘data reduction’ and ‘conclusion drawing and verification’ (Miles & Huberman, 1999, pp. 10-11).

In the fourth stage of the thematic analysis all themes were reviewed and tested for strength of evidence using extracts of supportive data. To tighten the analysis for manageability and focus of study purpose, some themes became subsumed under larger themes or were discarded. Mapping themes and sub-themes were used to refine distinct categories and their relationships within and between themes. The aim was to form a structured and coherent pattern of similarities and variations in those features influencing the quality of nursing care in the ICU setting. Additionally, interpretations were corroborated with other evidence either from interviews, observation field notes or documents. The journal was vital in keeping track of the evidence, alternative theoretical propositions (and for ongoing analysis) and interpretations. This process assisted in maintaining the trustworthiness of the data (Sandelowski, 1993; Streubert Speziale & Carpenter, 2003). Furthermore, ‘peer debriefing’ with experts in ICU nursing provided an opportunity to test interpretation and insights gained from the data analysed (Lincoln & Guba, 1985).

The fifth stage involved confirming the themes relevant to the research question. Conceptual names were carefully examined to grasp the core meaning and further defined, prior to labels being applied to each theme. Extracts of data relevant to each theme were studied and marked to explain what they revealed and why it was important for understanding an aspect of the study. Finally, writing the research

report was the sixth phase of thematic analysis. This phase will form the bulk of the following chapters.

Trustworthiness

The trustworthiness was established using the converging line of inquiry and as Sandelwosky (1993) notes that reliability and validity translates into issues of credibility, comparability and transferability and dependability. Data obtained from the interviews was fed back to the informants in order to confirm or refute interpretation. The researcher and two analysts were used to establish credibility of emerging categories by examining sections of the textual data and coding to ensure that the emergent themes were supported by the data. An audit trail was established to allow for the findings, interpretations and recommendations to be attested and supported. Thus the criteria of credibility, dependability, conformability and transferability were applied in the rigor of the qualitative analysis.

Ethical consideration

Approval for this study was granted by the Human Research Ethics Committee, Curtin University of Technology (see Appendix, F). Additionally, the Ministry of Health Biological Ethics Committee in Saudi Arabia approved the study and, in turn, requested approval from the selected hospital. To address the issue of potential bias, coercion, or influence on participants in the study, the hospital chosen for the study, was one where the researcher had not previously been employed. The authority at the selected hospital gave their approval for the study including permission to gain access to a range of hospital documents.

All participants were provided with written information about the study which included contact details of the researcher (see Appendix G). Each participant was assured that participation was voluntary and that they could freely withdraw from the study at any time, or retract any information provided without any disadvantage, or consequence. Additionally, participants were assured of confidentiality prior to signing the consent form (See Appendix H). The researcher

was bound by the nursing Code of Practice, which is based on the principles of maleficence and beneficence, to keep all patient and participants details confidential.

Interviews were conducted in a mutually agreed place in the selected hospital and permission gained to record field notes and make field observations. All hardcopies of the profile survey, transcribed interviews and field notes/observation were secured in a locked facility at Curtin University, School of Nursing and Midwifery and electronic files were saved in a password protected computer. The data will be retained for a period of five years in accordance with University policy. To ensure confidentiality the researcher and his supervisors were the only persons permitted access to the data. Audio tapes will be erased when the study is completed.

In all documents pseudonyms replaced individual names in an effort to protect the anonymity of the participants and the hospital during the study and during the publication of the findings. Additionally, the nationalities of nurse participants were not disclosed.

Summary

This chapter outlined the approach taken to explore and describe the factors that influenced the nurses' ability to provide quality care in an ICU. A case study was seen as the appropriate method, of understanding and answering the research question. In keeping with this method the boundaries were set with data being collected from various sources including nurses, management personnel and documents. Additionally, the researcher undertook field observation and kept field notes, which were also used in thematic analysis. The chapter concluded with an overview of the ethical considerations.

CHAPTER FIVE

FINDINGS

Introduction

The previous chapter detailed the methodology of the case study and gave an account of the analysis of data. Since this study used both quantitative and qualitative data, this chapter will provide findings and interpretations from each in order to make connections between lines of evidence. Further details will be provided in the discussion chapter to follow. This chapter will commence with a synopsis of the demographics of nurses working in the ICU at the time of the study. The second section provides a snapshot of some responses to the interview questions in order to demonstrate how they led to the emergent of themes. These will also be examined in light of an evolving conceptual model.

Nurse profile survey

In this section, the statistical findings of the ICU nurse profile survey are presented. It contains demographic data concerning nurses employed in the ICU during the time of the study between the years of 2008-2009, as well as information on qualification and work experience. At the end of this section, a description of those nurse participants who took part in the interview is presented, since not all of the nurses who worked in the ICU were interviewed.

A total of 150 surveys were distributed being all eligible nurses employed in the ICU and 102 completed and returned, which represented a 68%, response rate. The following results from the profile survey will be displayed graphically and a brief statement about the relevance and significance to the study will be provided.

Approximately one quarter of the respondents had a Bachelor of Nursing degree while the remaining had a lesser qualification. The initial nursing education of 15% of the respondents was obtained in a hospital, whereas the rest earned their qualifications from health institutes (37%), colleges (40%) and universities (8%). Out of the total respondents, (7%) reported that they had no previous ICU experience, and 63% lacked post-basic nurse training (Table 5.1).

Table 5.1
Profile of nurses working in the ICU (n=102)

Characteristic	n	%
Sex		
Male	3	3
Female	99	97
Age		
20-30	72	71
31-40	26	25
41-50	4	4
Nationality		
Saudi	15	15
Indian	68	67
Filipino	19	18
Qualification		
General Nursing Certificate	10	10
Diploma in Nursing	61	60
Associate Degree	1	1
Intermediate University Degree	2	2
Bachelor in Nursing	27	26
Not specified	1	1
Initial Nursing Education		
Hospital	15	15
Technical School/Institute	38	37
College	41	40
University	8	8
ICU Experience		
None	7	7
Less than 3 years	30	29
More than 3 years	65	64
Post-basic Nursing Certificate		
Yes	38	37
No	64	63

Age distribution

The age distribution, shows that the majority of the nurses (77%) working in the ICU were between the ages of 21-30 years. In contrast, (4%) of nurses were aged between 41-50 years (see Figure 5.1 and Table 5.1).

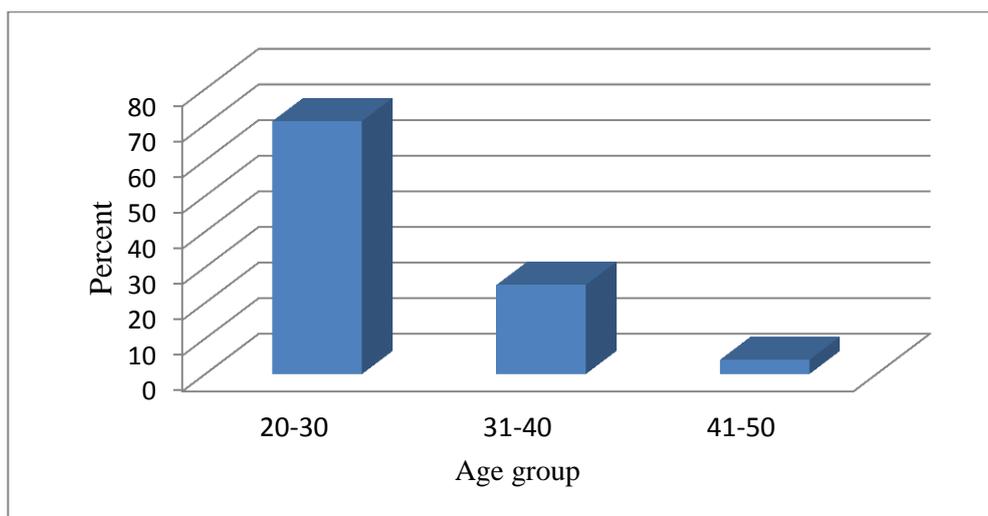


Figure 5.1 Age of participants

Qualifications

Nurses' qualifications included those with a Bachelor of Nursing degree or with a diploma. The majority had a diploma in nursing 61% and only 27% with Bachelor in Nursing degree. The other 12 % varied between general certificate and associated degree in nursing (see Table 5.1 and Figure 5.2).

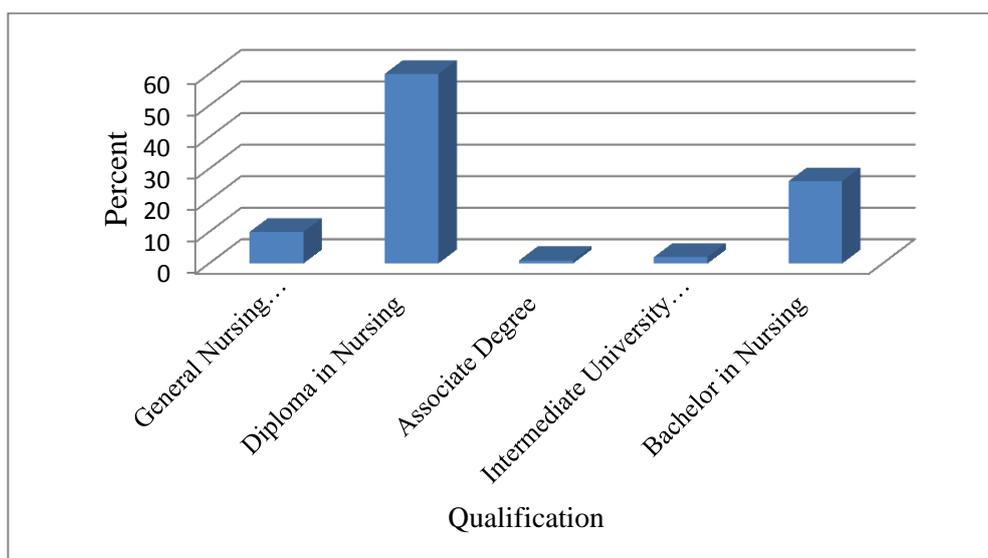


Figure 5.2 The participants' nursing qualifications

Characteristics of expatriate nurses

Participants working in the ICU were from three nationalities including Saudi Arabia, India and the Philippines. Whilst Saudi nationals represented 15% of the respondents the majority (n=87, 85%) were expatriates from the other countries with Indian nationals representing the majority with 68% with ages ranging between 20-30 years. This percentage is higher than the published ratio of expatriate nurses where the ratio is 66%. Expatriate nurses were predominantly female, with only one Filipino male. The Indian nurses were younger than their Filipino counterparts with over half (65%) having more than 3 years ICU experience. The majority of the Filipino nurses had a Bachelor of Nursing degree gained in either a college, or a university with 79% having ICU experience (see Table 5.2 and Figure 5.3).

Table 5.2

Characteristics of expatriate nurses

Characteristic	n (%)	n (%)
	Indian	Filipino
Total	68 (100)	19 (100)
Age		
20-30	51 (75)	6 (31)
31-40	16 (24)	10 (53)
41-50	1 (1)	3 (16)
Qualification		
General Nursing Certificate	9 (13)	0 (0)
Diploma in Nursing	50 (76)	1 (5)
Bachelor in Nursing	9 (13)	18 (95)
Initial Nursing Education		
Hospital	15 (22)	0 (0)
Technical School/Institute	36 (53)	1 (5)
College	15 (22)	12 (63)
University	2 (3)	6 (32)
ICU Experience		
None	2 (3)	0 (0)
Less than 3 years	22 (32)	4 (21)
More than 3 years	44 (65)	15 (79)

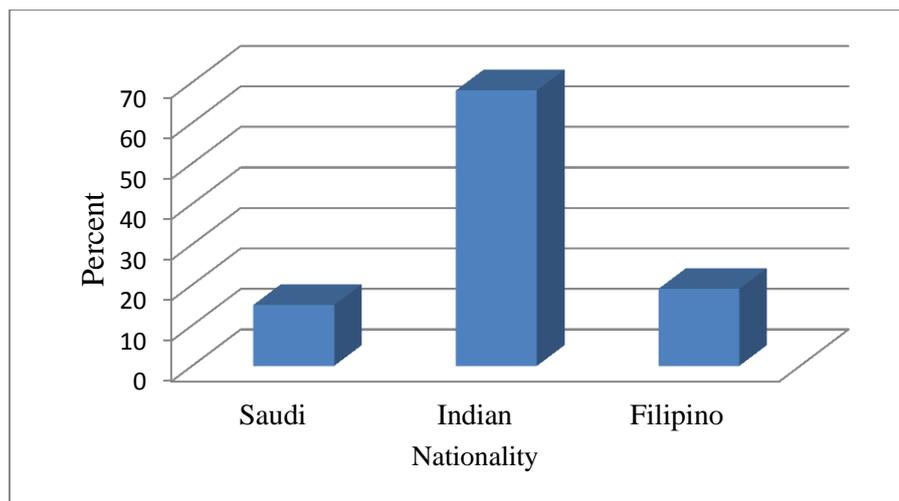


Figure 5.3 Participants' nationalities.

Post-basic nursing certification

A significantly higher proportion of Filipino nurses than Indian nurses had a post-basic nursing certificate ($p = .022$, chi-square test, $\chi=5.25$), (see Table 5.4.). This difference was found to be statistically significant (58% versus 29%, $p = .022$, chi-square test, $\chi=5.25$ (see Table 5. 3).

Table 5.3

Post-basic nursing certification in ICU of expatriate nurses

	n (%)	n (%)
	Indian (n=68)	Filipino (n=19)
Yes	20 (29)	11 (58)
No	48 (71)	8 (42)

Saudi nurses

There were 14 females and one male Saudi nurse whose ages ranged between 20-30 years. Their qualifications were less than a Bachelor in Nursing, gained mostly in a college. None of the Saudi nurses had worked overseas and a third ($n=5$, 33%) of these nurses had no ICU experience. Significantly, less than half ($n= 7$, 47%) acknowledged having attended post-basic courses, but 40% had worked for more than 3 years in the ICU (see Table 5.4).

Table 5.4
Characteristics of Saudi nurses

Variables	n	%
Qualification		
General Nursing Certificate	1	7
Diploma in Nursing	10	67
Associate Degree	1	7
Intermediate University Degree	2	13
Not specified	1	7
Initial Nursing Education		
Technical School/Institute	1	7
College	14	93
ICU Experience		
None	5	33
Less than 3 years	4	24
More than 3 years	6	40
Post-Basic Nursing Certificate		
Yes	7	47
No	8	53

International work experience

Nearly two-thirds (60 %) of the 87 nurse expatriates who came from India and the Philippines stated that they had initially worked overseas. The proportion of Filipino nurses with international work experience was found to be significantly greater than that of their Indian counterparts ($p=.031$, Fisher's exact test), (see Table 5.5).

Table 5.5
Overseas work experience of expatriate nurses

	Indian	Filipino
Yes	37 (54%)	16 (84%)
No	31 (46%)	3 (16%)

Table 5.6
Years of international experience of expatriate nurses

	Indian	Filipino
Less than 3 years	16 (43%)	0 (0%)
More than 3 years	21 (57%)	16 (100%)

Among those participants who admitted to have worked abroad, it was found that all the Filipino nurses (100%) compared to over half (57%) of the Indians, had more than three years work experience overseas ($p=.001$, Fisher's exact test). (see Table 5.6).

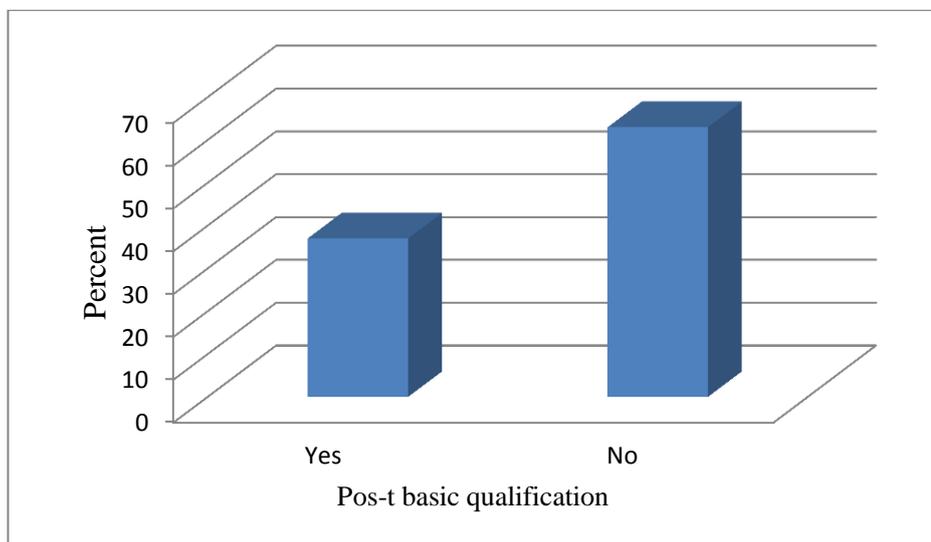


Figure 5.4 Post-basic certificate in ICU

Factors associated with a post-basic nursing qualification in ICU

Sixty four nurses (63 %) had no post-basic nursing training in the ICU (see Figure 5.4). The low percentage of nurses who attended training, or engaged in post-basic courses in critical care suggests an under qualified nursing staff. Nurses working in the ICU fell into three categories; no previous experience, less than three years of experience and more than three years of experience. More than two thirds (65%) of the participants had more than three years of ICU experience, in contrast to 7% who had no experience in the ICU (see Figure 5.5). To determine the factors associated with post-basic qualification, categories in each factor were collapsed to perform a chi-square analysis. Of the factors tested, ICU experience was found to be significantly associated with post-basic qualification. An increase of ICU experience was associated with an increase in qualifications. No significant differences were found to suggest that age, sex, nationality, qualification and international experience were associated with a post-basic nursing qualification (see Table 5. 7).

Table 5.7

Factors associated with post-basic nursing certification

	With post-basic nursing certification	Without post-basic nursing certification	<i>p</i> value, Test statistic
Age	n (%)	n (%)	
20-30	30 (79)	42 (66)	.153,
31 and over	8 (21)	22 (34)	$\chi=2.04$
Sex			
Male	2 (5)	1 (2)	.554,
Female	36 (95)	63 (98)	Fisher's
Nationality			
Saudi	7 (18)	8 (12)	.414,
Non-Saudi	31 (82)	56 (88)	$\chi=0.66$
Qualification			
Less than Bachelors	26 (68)	49 (77)	.368,
Bachelor in Nursing	12 (32)	15 (23)	$\chi=0.81$
International experience			
Yes	16 (42)	37 (58)	.125,
No	22 (58)	27 (42)	$\chi=2.36$
ICU experience			
Yes	38 (100)	57 (89%)	.044,
No	0 (0)	7 (11)	Fisher's

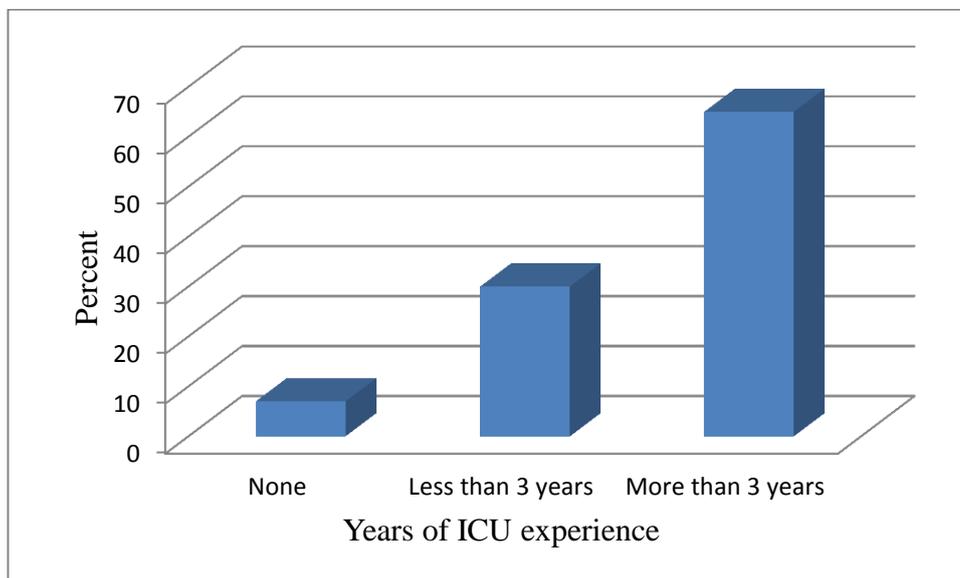


Figure 5.5 ICU experience

Characteristic of interview participants

Of the 102 nurses who returned the survey, 45 participants (44%) volunteered to be interviewed for the study. The interview participants' age ranged from 20 to 56 years with a mean age of (32.2) years. Five were males with mean age of (43.6) and 21 were females with a mean age of (29.5).

Of the 45 nurses who volunteered to be interviewed 21 nurses (46 %) were selected based on the eligibility criteria being able to speak English, proportionally by nationality and their work experience in the ICU for more than three months. Of the 21 nurse informants, two were males one was a Saudi and one a Filipino. The participants represented three countries, Saudi Arabia, the Philippines and India. To ensure a broad representation, seven nurse participants were from Saudi Arabia, five from India and seven were from the Philippines. The seven Saudi nurses were aged between 20 and 28 years. They also had Associate degrees in nursing from a Health Science College. This qualification was obtained after three years of secondary school. The Saudi nurses' experience in the ICU ranged between six months and six years.

The five Indian participants were aged between 28 and 41 years. Two (9 %) had a Bachelor of Nursing degree, and three (14 %) had a Diploma in nursing. Their experiences in the ICU were between three and eight years. Finally, the age of participants from the Philippines was between 25 and 36 years. All the Filipino nurses had a Bachelor of Nursing, and their experiences in the ICU was the same as the Saudi nurses ranging from six months to six years.

In addition to the ICU nurse participants there were five management personnel who, by virtue of their responsibilities, were vital in providing information concerning the research question. The purpose of gathering data from various sources was to test the credibility of subsequent findings. Since the management personnel profile was not relevant to the purpose of the study, they were not invited to complete the profile survey. The management group consisted of five participants, four were doctors and one a nurse. Three were males and two females. The nurse had an Associate Degree in Nursing. All the management team who

participated were Saudis. The participants held the following positions: Hospital Director, the ICU Director, Director of Quality Improvement and Patient Safety, and the Training and Development Director. The nurse was the Head Nurse in the ICU. The following section of this chapter will present some responses to questions posed in the interview.

A case study method of research examines contemporary events where behaviours cannot be manipulated and requires various sources of data to understand complex social phenomena. In keeping with the case study method apart from the quantitative data, obtained in the profile survey, interviews were conducted with ICU nurse participants and a number of management personnel. Essentially, however, the case study research method is qualitative in nature and differs from documenting findings from quantitative data. In qualitative studies is not necessary to state the number of people who discuss a particular issue, rather the focus is on their perceptions of the phenomenon under question. This issue goes to the heart of qualitative research as people's perception varies. A semi-structured interview scheduled was prepared in order to elicit from nurses their perception of quality nursing care in the ICU (see Appendix E). The management personnel were also interviewed in verifying all responses.

The nurse participants' interviews focused on a number of central issues relevant to the background of the participants and to their experiences in ICU nursing. Some of the questions were posed in order to build a rapport with the participant and were thus of a general nature. Others were structured to elicit the participants' knowledge and attitude towards quality care in general and then more specifically in the ICU. Technical rigour in the analysis of qualitative data is a major factor in the credibility of the findings. It is argued that readers of the data form their own decisions and judgments about these matters based on the evidence (Patton, 2002). In this study the trivial and the mundane responses were excluded leaving sufficient and significant evidence to illuminate the case and to provide evidence in answering the research question. An example of the data that was excluded is as follows:

“You know they are not giving us something new it's just all written in the textbook”.

Extracts of participant responses to pertinent questions are provided in this section of the chapter in a cogent fashion that integrates the variety of their experiences. This strategy addresses the issue of the researcher's potential biases and provides transparency of reporting in the emergent themes. Thus, a tentative discussion follows on the participant's responses to selected interview questions. These questions pertain to the participants' attraction to nursing in Saudi Arabia; how they choose the regional hospital for employment; their appointment to ICU; and, their understanding of the quality of care. This approach provides clarity and coherence to nurses' backgrounds.

Snapshot of response from nurses

The snapshot from interviewing nurse participants provided the background to the reasons for nurses to be attracted and work in Saudi Arabia. Nurse participants, when questioned about attraction to nursing in Saudi Arabia and to the regional hospital, had a similar pattern of responses. Expatriate nurses were attracted, because they wanted to: find job; broaden their experience; earn higher pay; learn about Saudi Arabia; gain financial stability; earn a tax free salary; and have free accommodation. Some expatriate mentioned a common religion, two others said they came to Saudi Arabia because of family pressure. The following quotes from nurses' interviews illustrate these attractions:

The reality of the matter, I decided to come to Saudi to earn more income for the family. Second, to gain more experience of (ah) high tech, (ah) to use (ah) high tech machines...And to have international work experience. That is the important thing and to serve people.

One thing, my husband is here and family is very important in our life... my husband is working here and I am staying with my family I mean we have two babies.

Well the biggest attraction to me to come here in Saudi Arabia first is I am a Muslim and my family would not allow me to go to another country. Also, maybe because, (ah) comparing the salary to the other countries, they might have higher salary but the cost of living is more and they pay income tax ...Here, foreigners will only pay just for personal needs.

First and foremost it is for financial stability. I realize that nurses coming to the Saudi Arabia are earning more money than if I work in my own country...The second reason is, I wanted to know what is Saudi Arabia and how people live there, what is the custom, the culture and practices and how they live and I was curious.

Generally both groups of participants, the expatriate and Saudi nurses, were directed to the hospital (under study) by the Health Department (Regional General Directorate). According to the participants, none of them were given a choice. Furthermore, those nurses who requested to work in a particular hospital were declined. Saudi and expatriate participants alike described their appointment to this hospital, as in the examples below:

There was no attraction that made me to work here. Actually this is my assignment from our Regional Directorate to work here ... my assignment was to come to this hospital and I am here.

Actually I am not the one who chose to work here. When I applied there in the Philippines they [employment agency] said I am under the Ministry of Health. in Saudi Arabia the General Directorate, they sent me here.

I got interviewed in India and they [an agency] are the ones who sent me here to [name of hospital]. I had no idea before about Saudi Arabia, or which hospital is good or which hospital is bad. I don't have any idea.

Modes of nurses' appointment to the ICU were based on the hospital's needs, such as the availability of nursing positions, the nurses' previous experience, and staffing needs. Others may have been invited or were internally transferred from other areas of the hospital. These quotes from the nurse participants depict the range of influences on nurses' allocation to ICU.

Initially I was assigned here in a Medical Ward (A) and it was very difficult... all the patients were bed ridden. Then, I tried and applied for ICU... I made a letter and approached the nursing office because I heard they needed trained nurses. I tried my luck. So they approved it and I am happy for that.

My last experience was ICU. So from there I came here. They [nursing office] saw my experience and there was a need for staff in the ICU department.

I was a new graduate and I had been asked which unit you will choose. Intensive care was my third choice. I was posted according to my choice number three.

After graduation directly I work here....they ask me if I want to work in ICU. Then I said yes. I want to work in ICU.

I had no experience in ICU. When I first came I worked in the ward. At that time the supervisor was searching for those who are interested to work in ICU. That time they are under staffed here. So I was volunteering myself, I honestly told them I don't have any experience in ICU but I am willing to learn.

An important question posed to participants in the interview concerned their understanding of quality nursing care. The various responses included, administering proper standards of care; standards based on knowledge and experience; give your 'best'; 'good' nursing service; team-work; harmonious relationships; continuous education; proper job description; performing duties and responsibilities; giving the best care possible; and, nursing service that is free from error. The variety of perceptions in the responses to this question was seen in the following extracts of an interview:

For me it means you are doing correct interventions, correct management, and correct implementation of care...So the final outcome will be good for the patient.

Quality nursing care is to give your best to your patients. so you must give your best, your time , your physical power, your thinking....actually it will be very hard.

For me quality nursing is good service. In my opinion quality nursing service is good, if we have good team work as an ICU team and harmonious relationship with other colleagues and the doctors, plus complete facilities, continuous education. What else... good chain of command and job description.

It is a level or standard of the nursing or the procedures of nurses and doctors that you cannot be below it. Quality is a standard.

The quality of nursing care means the kind of service patient's receive by the nurses and that's (ah) free from error.

The quality of nursing care means to me of course , you give the proper nursing care to the patient and ... the proper care definitely we give... quality care it is the standard of care that you have to give the patient base on of course your knowledge and skills and experiences.

As can be seen from these responses, expatriate nurses did not have a choice as to the hospital they worked in, nor which area of nursing practice. Their beliefs about quality nursing care, however, were consistent with most agreeing that standards were most important. The previous snapshot of responses from the nurse participants provided a background profile which formed part of the data collected in the study. The following section will provide commentary on the themes that emerged from all the data collected.

Influences on quality nursing care in the ICU

An analysis of all the data collected for this study revealed multiple, complex and interrelated factors that influenced the quality of nursing care in the ICU. The analysis focused on the day-to-day recurrent patterns of nursing and nurses' experiences in practice, and how these were perceived to impact on patient care. In addition, interview responses from management participants were included in the data analysis. In the process of thematic analysis, each emergent theme was given a title. The aim was to form a structured and coherent pattern of similarities and variations in factors that influenced the quality of nursing care in the ICU. In keeping with case study methodology and the boundaries of the case, the themes were categorized into **direct**, **intermediate**, and **indirect factors**.

Direct factors were those that immediately affected nurses and their ability to provide quality care and which were internal and continuous within the ICU environment. The themes were: Continuance; Burden of responsibility; and Proximity. The theme of Continuance was further divided into sub-themes of *Shift work arrangements*, *Workload*, *Collegiality*, and *Unit management*. The theme of Burden of responsibility was also further divided into the sub-themes of *Educational preparation* and *Availability of resources*.

Intermediate factors were those that affected nurses' ability to provide quality care and that encapsulated regular, but intermittent elements that impacted on nursing in the ICU. **Indirect factors** related to elements external to the ICU, but had an influence on nursing practice. Whilst each of the themes and sub-themes had some distinctive characteristics they also overlapped and were interrelated. An example of this overlapping, within the direct factors, the sub-theme: availability of resources depended on relationships with supervisors, which was a theme in the intermediate factors. Collectively, the themes and sub-themes were seen as influencing the quality of nursing care provided by the ICU nurses. These interrelationships are depicted in the following figure (5.6).

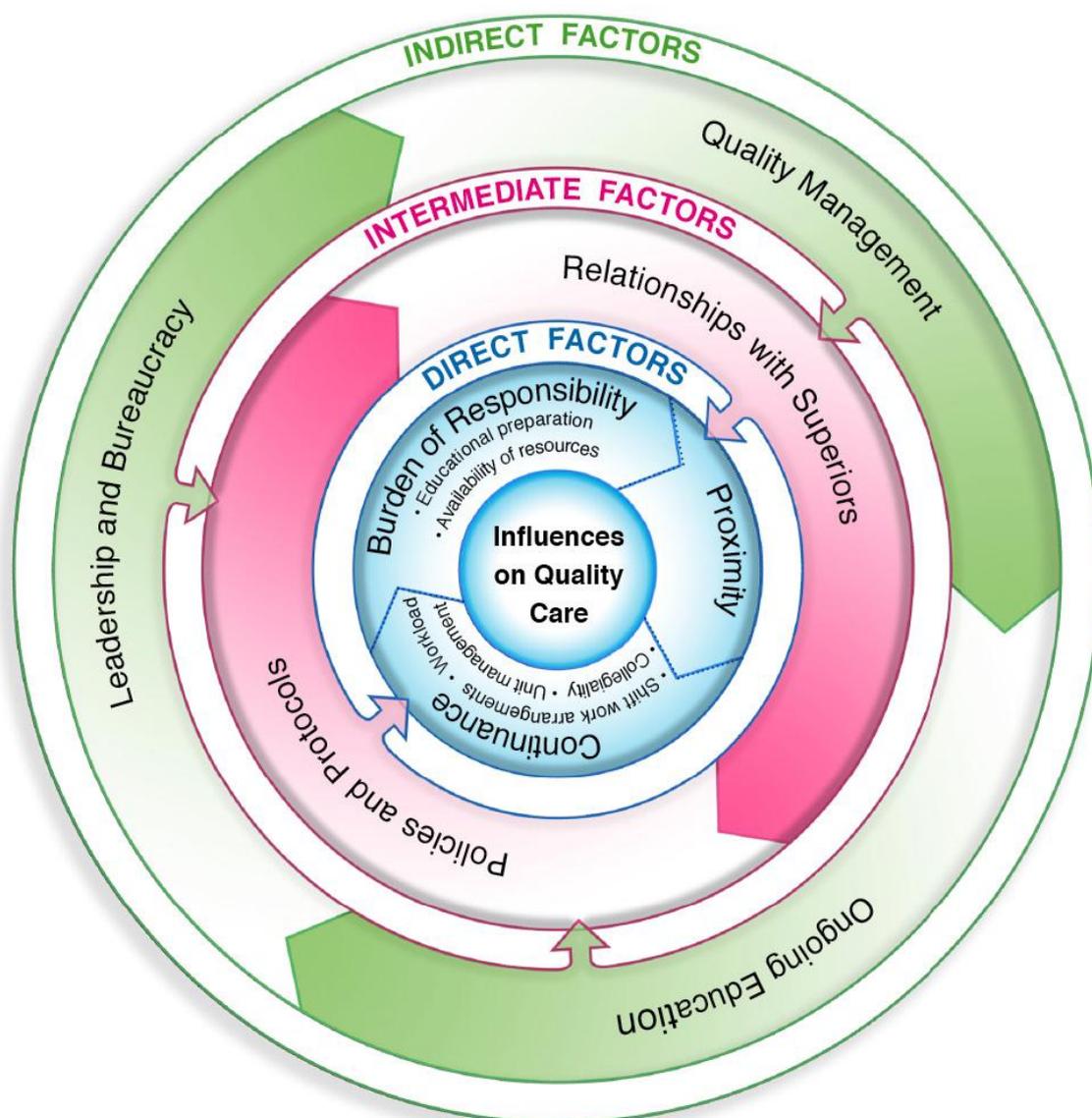


Figure 5.6 Influences on quality of care provided by nurses in the ICU

Direct factors

Direct factors were identified as those attributes of nursing that were predominant within the ICU environment and where nurses had primary responsibility for patient care. Such factors as the stresses of professional responsibility for continuous patient care; the demanding workload of being at the patient's bedside and continuously monitoring vital signs for long periods. Staff shortages affected the amount of collegial support that was given. Other barriers to providing quality care were unit management, minimal or no orientation, and limited resources. Being in close proximity exemplified the emotional sensitivity of nurses' relationship with patients. Nurses frequently articulated a sense of direct factors in comments such as:

As you know, here in ICU everything around us can affect our work and impact on us and our patients, it really affects us in some way or another. Say for example the complexity of patient needs; with critical cases, you have to be very vigilant to any alarms, any changes in the hemodynamics of the patient, medication and so on.

Similarly, another nurse participant explained how it was 'everything around us', such as the 'workload' and the complex needs of the patients that for her, were stressful. An overwhelming work environment could become a barrier to providing the best possible care:

It is the environment and the things in the ICU that makes you stressed, you know we want to provide the best quality care we can but sometimes we just can't cope with shifts, workload and patient needs especially when we have to do many things like with new admission or if a patient arrive from OR, just imagine how many procedure you need to do. The new shift arrives and we do not finish all the work.

The distinctive themes in the direct factor category were: Continuance, Burden of Responsibility, and Proximity. In each theme, there were three distinguishing features that revealed influences on the quality of nursing care. First, Continuance within the context of this study is defined as the continuous temporal nature of nursing in the ICU. The second theme, Burden of responsibility, is defined as the parameter and scale of practice encompassed in nursing care. Third is Proximity and defined as the close professional relationship between nurse and patient. A brief analysis of each aspect of these themes and its implication for quality of nursing care in ICU follows.

Continuance

Continuance encapsulated the ongoing, uninterrupted, unremitting care nurses provided continuously over time. The nature of care was constant and repetitive. This was observed for example, in the recurrent and routine activity of frequently checking and recording vital signs and the ceaseless checking of fluid balance. The nature of nurses' work was a distinguishing feature of nurses' care. While other health professionals including doctors entered the ICU periodically to provide an aspect of assessment and treatment, it was the nurses who exclusively remained on the ICU floor. It was the nurse who called the doctor when the patient's condition changed. The following quote from a nurse captured the theme of continuance:

Who else, except nurses, work twenty four hours seven days a week. All other health professionals come and go. They just do one procedure or two and we [nurses] are in the ICU constantly caring and monitoring patients. For example, physiotherapy technicians once they finish the list of patients, they have free times to relax. Doctors do their rounds and go to their office until we call them. X-ray technicians do the X-ray, hand it to us and that is all. It is just the poor nurses that work over the clock especially in the ICU.

In analyzing the theme of continuance sub-themes emerged that mainly related to: *shift work arrangements*, *workload*, *collegiality*, and *unit management*. Staffing was seen as a core component of continuity of care in the ICU.

Shift work arrangements

Nurses were rostered for six days per week in four weekly time-table, to cover the three shifts per day. Each shift was of eight hour duration. The working week was forty eight hours. At the change of shift, nurses remained on duty for handover to the incoming colleague. Moreover, nurses usually arrived on duty prior to the commencement of a shift and remained after the end of a shift, in order to allow time for the handover of patients. This time lag amounted to over an hour per week increasing the total number of hours the nurses worked. The lack of flexibility in the roster was a frequent source of dissatisfaction amongst the nurses, for example, in one month a nurse might be rostered to work every night with only one night off. A nurse described this situation and the effect on her life:

I'm married I have two kids it's difficult for me to work night shift, but sometimes I work night duty for a full month. Imagine working full month night and I leave my kids at home. This affects me and I asked to change my shift but the head nurse refused me.

Although the difficulty of shift rostering was shared amongst the nurses, some were affected by the unsocialable hours as can be seen in the following quote:

One of the most difficult things is the shifts, actually...we are covering every shift and we [nurses] have to do it. Imagine an afternoon shift from 3 pm to 11 pm. I can do it [roster] one week or two weeks and that's it. I felt socially isolated. I can tolerate night duty but here in ICU it is physically consuming. I like morning shift because this is more normal. We work for six days per week and only one day off, so this is inhumane.

On each shift a constant number of nurses were rostered irrespective of variation of workload between these shifts. The workload on all shifts was physically, psychologically and socially demanding on all the nurses. There were differences, however, in the workload between each shift. The morning shift attracted more workload, as it involved the medical round, major procedures and surgical operations. The night shift demands usually involved patient maintenance.

Within the hospital under study it was usual to permit patient visitors into ICU. Up to five relatives or friends could visit in the afternoon any time for 15 minutes. The researcher's observations were that in the ICU, relatives gathered and stood at the patient's bed-side. Nurses had to request visitors' cooperation in allowing them to attend their relative, which posed extra stress in trying to complete patient care tasks. Additionally, it was during this time that relatives asked nurses many questions about the patient's condition. Nurses' workload was thus affected.

Workload

The workload in the ICU had no end point unlike other wards, where conscious patients could be self-caring between procedures. It was during this time that ward nurses could catch up on the paper work and other administrative tasks. In the ICU there was an endless cycle where one shift began another shift ended with no down time. Furthermore, the intensity of the workload was such that sometimes care might

be unfinished despite a nurse's endeavours. The following statement highlights this concern:

Because of heavy work you see each one of us very busy ... Maybe we will not have time to sit down even, because most of us are having two patients and not having time even to finish our work ... The shift hours will finish and we are not finishing our duties; we do not finish our work.

The Head Nurse of ICU acknowledged the heavy workload expected of nurses and her frustration at not being able to change the shift arrangements. Part of the problem was 'a shortage of nurses'. When asked about the conditions of work, she stated:

This is not fair [shift work] however, we [management] are doing our best with a shortage of nurses and will continue to do so. The second thing is workload, our nurses are overloaded by critical cases and we have no other choice but to accept and work with what we have.

The day-to-day workload varied according to patient acuity, staff mix and different time of shifts. Critically ill patients were different from stable cases in that they needed extra and urgent care, as well as requiring constant monitoring, for example, a road traffic accident patient when admitted to the ICU was mostly unconscious with multiple fractures and needed to be connected to a ventilator. In such cases, nurses were often overloaded and found themselves under immense pressure to manage patients' needs. This situation was exacerbated if the nurse had to mentor a new nurse to the ICU or precept a student. Senior nurses were frequently observed sharing their knowledge with new nurses.

Patient acuity had a major impact on nurses' workload which was compounded when there was a staff shortage and/or a lack of experienced staff. Furthermore, it could be complicated by an individual patient's condition and the availability of assistance. For example a nurse recounted that she:

Handled two critical patients; both of them were RTA [Road Traffic Accident] patients. One of them was very obese and I cannot lift him from bed to bed for the CT scan. The bed is narrow, you know. I took the nursing aide with me Now-a-days they [management] are not letting the doctors come with the patient, only the respiratory therapist. Some doctors, they are not willing to lift the patient with you onto the bed.

In times such as that described by the participant, assistance of colleagues for managing patient care was essential.

Collegiality

Collegial support and collaboration among ICU nurses was evident in the communications observed between nurses. The ICU practice environment was characterized by its tensions between expectation and reality. Collegiality sustained working relationships and the continuity of care. The nurses helped their colleagues, such as, providing relief for each other at break time and by explaining unfamiliar procedures. The importance of nurse colleagues was summed up by one of the nurses:

My colleagues...because we are practicing here helping each other. We are not leaving each other alone. If one is busy we are helping each other.

Solidarity was observed among nurses. On special occasions such as a farewell, or a celebration, nurses would bring cakes and small gifts to show a colleague how they were valued. These interactions between nurses were seen to lift morale in the unit, and provide necessary relief to the pressure of work.

Frequently, however, due to a shortage of staff collegial support was not forthcoming. In these situations nurses had to manage patient care on their own. A nurse described her experience of being alone:

You know it's the shortage of the staff, sometimes you will be alone with critical patient ... you want somebody to help you but there will be nobody to help you especially taking the patients to the CT room or ultrasound room with too many monitors attached, like portable ventilators and all the connections. And you're alone ... and you cannot really deal with him.

In the ICU collegiality between the health care team relied on effective communication and cooperation with allied health personnel such as, technicians and other health professionals such as physiotherapists and medical practitioners. Nurses were observed communicating with doctors during medical rounds to up-date them of patients' progress and to receive new orders. Additionally, nurses were observed

to consult with doctors on a needs basis for advice and to report the patient's condition. Nurses also assisted the medical staff with performing complex procedures such as an intubation. Multidisciplinary teamwork, however, depended on effective guidance from unit management.

Unit management

Nurses in a management position within the ICU at the time of the study were the Head Nurse, the deputy Head Nurse, as well as one Charge Nurse for each evening and night shifts. The management role involved the responsibilities of unit coordination as well as support and supervision of nurses. The Charge Nurse remained in the unit at all times, but was not allocated individual patient responsibilities. The Charge Nurse made decisions about allocation of patients according to the experience of the nurse, and acuity of patient needs. The Charge Nurse was observed to assist or offer guidance when needed and maintained a close observation of nurses and patients.

The Head Nurse activities, apart from routine management duties, included monitoring and recording incidents in the ICU. In addition, the Head Nurse's responsibilities were to communicate with nursing staff and to facilitate the effective operation of ICU. In the experience of nurses, however, while the Head Nurse would be told about their needs and their suggestions, they often did not take the appropriate follow-up action. The nurses interpreted this as the Head Nurse not listening to their concerns.

The Head Nurse was at times inflexible when staff requested a change of shift or sick leave. The lack of an adequate response discouraged some nurses from raising their concerns, as seen in these nurses' comments. Lack of unit leadership affected the morale and confidence of nurses as evidenced in the comment made by two nurses:

For me I am tired of talking because we have talked several times with the Head Nurse saying this is not good for the patient. But nobody is listening to you and even when we write it down nobody listens. Okay, all they do is just write we will change it or we will do it.

One day off only it is really difficult, really difficult so they have to understand all these things because we are not robots we are human so we [nurses] have limitation in working so they have to understand this. This is not a leadership.

Another aspect of unit management was the relationship between nurses and the unit managers. Nurses perceived that they were not consistently monitored, such as for patient care or workload. Instead, the priority for the Head Nurse and her deputy appeared to be compliance with paper administration and work rosters. One participant said:

In this unit, they [unit leaders] are concerned about the papers only. They will come to check. For example, if there is a new staff they are not monitoring her closely how she deals with the patient or to do the procedure properly. They are just concerned if she did sign patient progress notes. Did she write her note completely?

A bureaucratic style was evident in unit management priorities, with paper work exalted over clinical performance. Coupled with the bureaucratic style of management was the delegation of responsibility for patient care but without guidance. The burden of responsibility was thus imposed on all nurses.

Burden of responsibility

All professional nurses are responsible for the patient care they provide. Routine care in the ICU, however, was different from ward nurses in that they were constantly at the patient's bedside such as described by one of the nurses:

We are always with the patient making close observations carrying out all the doctors' orders, following orders and giving medications on time, turning the patient to avoid bedsores and if there is dressing to be done nurses do it.

Once we finish the endorsement, I check the patient from head to toe and start check vitals, check the monitor, give medication, extract blood if needed, chase the results, turn the patient, do the ECG for the doctor if requested. So this is just part of our role in the ICU to provide quality of care.

Nurses were observed, throughout twenty four hour period, to take total responsibility for patient care and were in constant communication with each other.

Unlike ward nurses the handover of responsibility between nurses occurred at the bedside. One nurse described this process:

After we receive our shift assignment, we set with the outgoing shift and do the endorsement [handover] at the bedside. She will tell me whatever happened to the patient during her shift, the new medication if any, any procedure done or need to be done, changes to the care plan, etcetera, etcetera.

In the ICU responsibility for patient care was seen as onerous, because of the unpredictable situations that could arise. It was during these times that the burden of responsibility caused nurses to draw upon their inner resources and request help from their colleagues. A nurse recalled a recent experience with a patient, with renal failure, who became agitated and pulled out her intra-arterial catheter. This example illustrated the magnitude of what a nurse may be required to handle, and sometimes with feelings of helplessness, especially at night when the specialist consultant was not in the hospital.

One night I had a patient having an intra-arterial catheter. The patient was so restless I cannot control her and I had already tied both hands and both legs to the bed rails. I informed the vascular consultant by telephone. He said to give sedation. After three hours, the patient was again struggling and so restless that she finally, in a split second, removed the intra-arterial catheter by pulling it out with her mouth. I was in front of her but it was out of my control.

Nurses relied on each other for support both in their everyday work and during times of unpredictability. One nurse said that:

The general atmosphere of ICU is good. We [nurse] can help and support each other with the weight of responsibility we have for patients.

The burden of responsibility for nurses included the provision of quality care. Most nurses, however, did not regard the quality of care as based on care improvements and evidence of best practice. In the nurses' perception, quality of care related to how well they performed their responsibilities, despite the difficulties, for example according to this nurse's perception of quality of care, it was 'to give your best':

Quality is to give your best to the patient so you must to give your best, your time, your physical power, your thinking. Actually it will be very hard.

Within the theme burden of responsibility, two sub-categories emerged that appeared to have an influence on the quality of nursing care. These were identified as: *educational preparation*; and *availability of resources*.

Educational preparation

Generally, nurses are educationally prepared and mentored when they moved into a different practice setting. It was evident in this study, however, that there was a deficit in these activities. Most nurses were posted to work in ICU with no prior education or experience. One nurse, for example, stated:

I came to work in ICU when at that time I actually no experience in ICU. I previously worked in a ward and because the ICU was understaffed I was asked to go there. I honestly told them I do not have any experience in ICU but I am willing to learn.

The educational courses for Saudi nursing students generally had a minimum focus on critical care. Throughout the undergraduate courses students were exposed to one unit of study called ‘critical care nursing’. It was during this unit of study that students were placed in a critical care unit, such as coronary care, but not necessarily in an ICU. Clinical practice in critical care, however, was extended by two weeks prior to graduation. It was evident that this structure did not adequately prepare new graduates for beginning practice in the ICU without supervision. Despite this deficit new graduates, were often appointed directly into the ICU. This was evident in the following quotes:

I was newly graduated with no background in ICU. I had been given three options for work and was asked, ‘Which unit will you choose’. ICU was my third option, and my choice. I was then posted according to my choice.

After graduation directly I work here...they ask me if I wanted to work in ICU. Then I said yes. I want to work in ICU because I want to learn.

In contrast, most expatriates had extensive experience in ICU nursing as stated by one of the participants:

Because I have previous ICU experienced from India after my studies I directly went to ICU only and I have in India four years of ICU experience so after coming here in Saudi Arabia they also put me in the ICU unit.

For most nurses in this study a lack of educational preparation added to the difficulty of nursing in an already complex practice environment. It is implied in the following quotes that if a nurse is not provided with specific knowledge and skills, they learn by trial and error with care depending on the nurses doing their 'best':

We are dealing with critically ill or injured patients, but I notice here they are not giving lectures relevant to ICU nursing. They do not give education for us to learn about cases in ICU. So we learn much for ourselves and we can give the best care we can.

Without prior educational preparation for ICU, orientation was of central importance to newly employed nurses. There was a four-day hospital orientation for new nurses, but orientation to the unit was usually brief, or non-existent. A lack of orientation, plus demanding workload, increased the difficulty of adjusting to nursing practice. Nurses felt they had to learn on their own and lacked confidence in carrying out their tasks. As one nurse explained:

At first I had difficulties in adjusting to this place because when I just came here for the first time there was no proper orientation given to us. On the third day they had given me two patients then I am at a loss. I said what am I going to do? Why so soon? I think I am not yet capable in handling it... finally as I go on you have to learn it by your own you have to do it by yourself in order to learn. But orientation, there was none really.

A few nurses, however, such as one newly graduated nurse, had received two weeks orientation to the ward. The Head Nurse employed at that time was keen to ensure that new staff were capable of practicing in ICU. This orientation included clinical procedures.

I came here directly after my graduation. So they sent me for 10 days to work in ER [Emergency Room] only to practice skills like intravenous cannula insertion....and other procedure and after 10 days I came directly to ICU. We trained for 2 weeks under supervision on the same patient and according to evaluation by our head nurse. She was really great. She taught us how to handle patients and not to be hesitant. We learn step by step and finally after two weeks I was able to handle patients, but it depends on what kind of patient we're handling.

Usually, there was no formal mentor appointed for new nurses to acclimatize to the setting. On some occasions, however, mentoring was observed for a new nurse when the senior nurse assumed the role. Informal mentoring was observed

during an evening shift between a senior nurse and a nurse new to ICU. The following observation was made by the researcher:

Room one of the ICU was occupied by a 37 year-old male patient involved in a road traffic accident (RTA). The patient was unconscious and connected to a ventilator and a cardiac monitor. The nurse looking after him was one of the senior nurses in the unit. The next room was occupied by a medical case. This patient was a 72 year-old male diagnosed with diabetes mellitus. Similarly, he was attached to a ventilator. The nurse caring for him was a new member of staff who recently arrived from overseas. She had no prior experience in the ICU and has never worked in Saudi Arabia. The senior nurse moved between the rooms and she talked with the new nurse. I asked her, 'It seems this elderly patient is unstable, isn't he?' She replies, 'Yes, he is unstable, but Sandra [pseudonym] is new here and she needs some guidance. New nurses require some mentoring. Just imagine if you start working in a new place'. On making inquiries with the Head Nurse the following day, the researcher discovered there was no mentoring policy in the ICU.

Nurses in the study, perceived that ongoing education for practice was important. Almost all the nurses, as well as each participant from management personnel expressed a need for nurses' to have access to professional literature to further their knowledge in ICU nursing. These educational resources, however, were not available. Only one shelf space in the hospital library contained a few nursing textbooks. One nurse, summing up the inadequacy of access to self-education, such as the library resources, by stating:

There is no computer so we can't utilize a computer [with internet access] for patient care and easy communication. Also, there are no nursing journals, no access to books. I think the books in the library are not updated. So it's not good.

It was clearly evident that lack of resources limited the ability to provide quality patient care in the ICU.

Availability of resources

Availability of resources was a dominant factor affecting the ability of nurses to provide quality care in the ICU. These resources not only included professional literature, but also equipment that was constantly needed, such as portable machines, disposable and non-disposable stock. Nurses depended on these resources to manage patient care.

The ICU was newly fitted with ultra-modern equipment, such as ventilators, monitors and electric beds. The technology was valued by nurses and a source of pride for the managers. In the view of these two nurses, for example:

There is good equipment now. We have a nice ventilator, nice monitor, and nice apparatus. I think our equipment is enough to get basic intervention for the patient.

The positive side is you have very nice equipment especially now the good electric beds all are more than good. Monitors and ventilators they are all very new.

In the experience and view of nurses the availability of modern technology in the ICU assisted them to provide a better quality of care. The use of such equipment enabled nurses to make instant observations and to monitor progress of patients and thus, to initiate immediate intervention, if there was a change in the patients' condition. At the same time the modern equipment relieved nurses of manual tasks such as taking vital signs. The cleaning of the equipment, however, remained a nurses' task. Nurses were observed to take responsibility for cleaning equipment, despite it being a questionable nursing role. Consequently, cleaning was of less importance:

If it [equipment] is out of order, clean, or dirty as I have told you about the bedside machine [suction]. Sometime it's dusty and nurses are so busy they often do not have time or a chance to wipe it or clean the machines.

The acquisition of modern medical technology, however, was accompanied with a higher expectation of nurses from superiors in that they required nurses to make extensive recordings. Furthermore, with the expansion of technology and an increase in beds meant more acutely ill or injured patients with life-threatening conditions were admitted to ICU.

Less apparent was the availability of smaller portable equipment for recurrent use such as ECG machines and glucometers. A shortage of this equipment often posed difficulties and resulted in patient care being compromised. Not only was there a limited availability of portable equipment, but on occasions the equipment was out of order. There was a permanent shortage of glucometers, with no provision

being made to increase the supply. As a consequence, only two glucometers were supplied for use in the 36 bed unit. A nurse having to do hourly RBS (Random Blood Sugar) had to locate a glucometer from another room. As she stated:

I have a patient on hourly RBS. How many patients in the ICU? Here we only have two glucometers. I have to shout up to bed 31 to call for the glucometer and this is wasting of time and means the RBS is not strictly taken on time.

There were recurrent problems with the use of the portable ECG machine. Firstly, there was only one available. Secondly, when the machine was out of order, which happened quite frequently, nurses could call the ECG technician to bring another machine to ICU. After hours, however, nurses had to locate a machine from another department. When the ECG machine was out-of-order, nurses reported the fault, which could take two to three days to be repaired. A further difficulty was attempting to take observation with a faulty ECG machine. This was evident in the following nurse's comment:

Our ECG is a big problem. If we have connected it to the patient and it doesn't work we have to disconnect it and search for another one.

Again because of equipment shortages, nurses faced an ethical dilemma of making do with unreliable equipment, or if unable to find a replacement, declining to use the equipment and not taking cardiac tracing as required. One nurse felt uneasy with the compromises she made with unreliable equipment and the time taken to 'fix' the problem:

It takes 35 minutes to take the ECG correctly because some leads are not working properly. So you have to fix it and if you look at your time and your time finished already with other so many things to do. It's frustrating and is not right.

Every day nurses were observed to deal with problems relating to the functioning of equipment and chronic shortages of disposable supplies. Such items as sterile gloves, suction catheters, gauze, face masks and diapers were constantly in short supply. Requisitions for these supplies were frequently not met. This undersupply presented recurrent difficulties for nursing care and frequently jeopardized both patient and nurse's well-being. Nurses were observed reusing disposable materials and sharing items such as sterile gloves. Nurses also 're-used' or split pieces of single use items, in order to make the stock go further and maintain

a semblance of care. The following accounts illustrate how this shortage compromised nursing care:

Actually we are dividing gloves, we are dividing gauze, we are dividing diapers because of the shortage of stock. For example, I had a patient who was passing stool, I should clean so it does not lead to bed sore, but since I had only one diaper, I had to ask from another room if they had another diaper like this one. Not only for the gloves and the diapers also for the bed sheets. We lack bed sheets if you are night duty they may tell you, 'Your patient is clean, don't give a bath'. You don't give a bath because there is no bed sheet. If you have to give a bath for the patient you have to replace everything or it will be wet. So if you are not given the bed sheet, gown and bed cover what will you use? So what you will do is just sponge, and wipe dry, the patient.

Another example from a nurse:

If you notice, especially the 50 cc single use disposable syringes, we are re-using it because of the unavailability and limited stock. If we request 100, they give the unit only 50 or 75. It also happens that we cut out pampers (diaper) in half and our under-pads because of lack of stock. It really frustrates us in giving quality care.

Resource deficiency had major implications for the safety of patient care. Despite knowing the risk of cross-infection nurses had no alternative but to reuse disposable items. Although the nurses repeatedly raised their concerns and the ethics of care, their representations to the unit managers were often to no avail; as illustrated, in the following account:

Suction catheter it should be, you know, one use only and to be discarded, so to prevent infection. So why are we having the suctioning catheter changed only once each shift? Why? Of course we complained about this. They are telling us we don't have enough stock of the suction catheters. We don't have enough stock for the sterile gloves. Oh my god, are you kidding me this is the patients' life. Imagine this patient is your father or your uncle, you know, whoever is your relative. Will you just let them just to do suctioning again and again for the whole shift with one catheter?

Proximity

The third theme which emerged from the direct factors was proximity to patients. This meant that nurses closely interacted verbally and physically, as well as emotionally with patients and their families. Two features of proximity were

awareness of the patient and emotional attachment. Nurses frequently expressed this proximity as 'all' encompassing by stating:

We are always with the patient.

And,

You are seeing the patient all the time.

The nurses' proximity to the patient made them aware of every breath, eye movement, and minute changes in the patient's responses. As stated by one nurse:

Because we [nurses] are the ones who are in front of the patients all the time, we know how they breathe; we know their level of consciousness. We know everything that the patient needs.

Proximity was observed, for example, when nurses reassured the patient or stimulated a response. Similarly, nurses frequently touched patients, such as when performing treatments and positioning patients. Nurses described their clinical role and interaction with patients as intensive compared with others in the health team who had minimal patient involvement. This was particularly pertinent to the ICU setting where the objective was to care for patient with unpredictable life-threatening conditions. They linked this interactive aspect of their caring role to continuity and the notion of holistic care. This vital aspect of care was a source of immense nursing satisfaction as illustrated by the following two nurses:

For me, it satisfied me when I cared for a critical case and everybody's expectation of me, the family and the doctors is to deal with it. Gradually my patient is getting okay. And then he is extubated, then progresses and can talk. Then he gets back the consciousness and he says thank you for everything before he leaves (i.e was transferred from) the ICU. I don't want more.

Here in ICU, we are dealing with very critical cases for example life-saving really...If you handle a critical patient and after sometimes you will see him conscious, talking, thanking you. Really you will forget whatever tiredness (ah)...and you will be satisfied...I mean you will be satisfied that you did something to save others' life. This is something we cannot describe (ah) it's my pleasure. In that way I reach my aim.

Nurses' emotional involvement was most visible when patients died. Nurses experienced grieving for the patient, as well as self-reflection on his or her professional capabilities. Some nurses, especially those new to ICU, found the often extreme state of patients' disfigurements and their deaths to be traumatic. The experience of a recently appointed nurse exposed to frequent patient deaths, had a

profound effect. She stated that 'I cannot forget', that is, not erase the trauma from my memory. In the following example the emotional impact of the relationship a nurse had with patients was evident:

When I just started so many patients died. I mean, after I handled [cared for] them, not died because of me. They were giving me last-stage patients and the patients died. So (ah) I really don't know. I was sad. I told them why are you giving a dying patient to look after? However, all were supporting me; they said this is not because of you. This is ICU so many patients will come and die here. So many other patients will come and go out. I mean I don't like this because I feel bad but they [staff] are supporting me. This is something [frequent deaths] that I cannot forget.

Whilst some themes and sub-themes that emerged from the data were categorised into factors that directly affected the nurses' ability to provide quality care other factors, although having an influence, were categorized into intermediate factors.

Intermediate factors

In the context of this study intermediate factors were those that operated between the internal and external environment of the ICU. The themes were *relationships with supervisors* and *policies and protocols*. Intermediate factors included supervision, administration and support for the performance of care required for the critically ill in the ICU. A distinguishing feature was that these factors such as in policy decision making were not continuous, but had an indirect influence on quality of care. Inconsistencies between written and unwritten policies and protocols contributed to the nurses' role uncertainty and influenced their performance of quality care.

Management personnel were responsible for staffing and supply of resources to the ICU. Included in the management personnel was a range of senior staff, for example, the Head Nurse, nurse supervisors and medical staff. Some of these staff had multiple roles that related to the ICU and across other departments and external authorities. The ICU Director was an example. He stated:

I have different responsibilities. In addition to the head of ICU, I am head of the auditing committee, for the filing system and also a member of the quality assurance committee...I am also involved deeply with the

administration, pushing toward health care quality control and ensuring everything is to be according to the standards of our health care system...I have authority to implement it at least within the ICU. The issues not only inside the ICU. It involves also issues from other departments. We are linked to other departments.

Relationships with superiors

Nurses' relationships with superiors were mainly those with doctors, nurse supervisors, nurse managers and infection control nurses. Communication between these people affected care decisions and interventions for patients. Where these relationships were positive, nurses felt respected and valued. Collaborative relationships, however, were frequently overshadowed by a disregard for nurses' in general. Instances of bullying and blame were often observed in the ICU. Consequently, incidents were unreported and unsatisfactory practices were perpetuated. A skin injury, for example, might not be reported by a nurse for fear of punitive consequences. Communication breakdown led the nurses to feel dissatisfied and undervalued. There were implications for favourable or adverse outcomes of patient care depending on the strength and weaknesses of the relationships with superiors.

Cooperative and collaborative relationships with medical staff for example enhanced the care of patients by improving decision making for treatment and intervention. Nurses and doctors were observed to frequently interact during patients' round, in telephone consultations or when reporting on the patient's condition. During the patient round the medical team sought detailed information from the assigned nurse and perused the patient's notes at the bedside. Instructions were then relayed by the consultant to the nurse. This exchange of information and team discussion usually lasted approximately 20 minutes for each patient. Consequently, in the 36 bed ICU a patient round during the workday could take several hours to complete.

A cooperative relationship, however, was not always forthcoming. Doctors attitudes towards nurses were, at times, showed disrespect. They expected nurses to

act as their assistant and often took them for granted. It was not unusual for doctors to intimidate nurses by shouting orders at them, or bullying them to comply with their demands. In one nurse's experience:

They [some doctors] do not know how to talk to the nurses... They think that the nurse is very low, not a partner, only a servant. We have to respect each other professionally, and as human beings, and as fellow workers. But I did not see that in some doctors. Some are acceptable but some are worse in shouting at you and shame you in front of the patients.

Some nurses tolerated bullying when it took place in front of an unconscious patient. When it took place in front of a conscious patient, however, the nurses felt humiliated and undermined. This behaviour led to a decrease in self-confidence. The following quote illustrates this point:

The behaviour of doctors makes you feel they are higher than you because they are doctors. They easily shout at you as if you are not educated.

A further problem for nurses in providing adequate care was the lack of options available when doctors disregarded nurses' requests and or concerns about a patient's condition. The only alternative was to report the matter to the ICU Director. Nurses experienced blame for the problems they reported and feared the consequences. This fear was experienced especially by expatriates who felt more vulnerable, as depicted in the following quote:

Sometimes you will tell the doctor something that happened to the patient and if the doctor does not respond we inform our head of ICU. But we do not know where to communicate sometimes really because they [head of ICU] are not approachable. The other thing is if you tell them they could create a problem for you which you will be afraid of especially with us non-Saudi, we are afraid of committing any mistake. But there is one format only for incident report that you are going to fill up and you give to your head nurse, the doctor will also write and they submit it to the nursing office and from the nursing office to the administration.

On occasions punitive treatment was administered when blame was apportioned to the nurses for reporting the incident, as happened to this nurse.

If an adverse event with a patient is reported and the incident sees the light [becomes known to superior] as we say in Arabic, then the person involved could have their salary cut off [temporarily].

There were cases where a nurse's salary was cut for seven days because she reported an incident to a superior. Consequently, nurses would avoid reporting whenever possible for example when a patient had a superficial skin tear. The under-reported incidents tended to hide minor accidents or errors. Clearly, there was a lack of incentive to communicate with a superior about problems arising for patient care in the ICU. Penalties could be imposed on nurses for a 'mistake' regardless of the circumstances. In a personal account a nurse disclosed:

Last month, I committed a mistake; I left one tourniquet on a patient because at that time I was handling two patients. I was very busy and I was in a hurry so it happened. As I told you it happens here to me. But at least they have to understand what were the circumstances, why I commit mistakes. Nobody, nurse or a nursing aide, wants to commit mistake in their work because we are dealing with the life...they cut seven days pay from my salary and it's really hard for me. For one problem I am deducted seven days' pay.

As a consequence of nurses feeling ignored and undermined despite repeated attempts to document concerns, nurses sometimes declined to report problems. Inattention and complacency of superiors resulted in a *status quo*. This following nurse's statement on a communication problem with doctors gave insight into this barrier for change:

For me I am tired of talking to supervisors. For me I've talked to our chief, to our ICU doctors, about what is not good for the patient. They said you are correct, this is bad, but it is not in our hands if the decision makers do not care. Now I just do my work...we have talked many times with the head nurse saying this is not good for the patient. But nobody is listening to you. Even when we write it down nobody listens. Okay, all they do is just write it down or say we will change it or we will do it. One week, one month, one year pass and the situation still is as it was, the same.

Policies and protocols

Policy and protocols for ICU were generally developed by the ICU Director and Head Nurse. These guidelines provided details for dealing with routine clinical and procedural responsibilities, including the process for reporting incidents. Protocols were either formally written, or informally where the daily practices were accepted, even it was beyond the nurses scope of practice, for example despite policies to the

contrary, nurses were expected to routinely perform some procedures, such as shown in the following example:

...about the nursing role here, sometimes in the ICU, if you want me to be honest with you. Sometimes we are doing even the doctors work. He is giving an order and according to the hospital policy the nurse is not allowed to do it. It's the doctors' responsibility. For example, the ABG [Arterial Blood Gases] test where we extract the blood from the patient's artery. Well it's a well-known fact to everybody that the nurse is not allowed to do it. It's the doctor or RT [Respiratory Therapist] job. But we always do this here in the ICU.

Nurses were sometimes thwarted by a lack of consistency in implementing policy or procedures. There was one copy of the policy and procedure manual in the Head Nurse's office. The office was frequently locked during her absence from the ICU and after hours. Moreover, the hospital library did not have a copy, nor were there any guidelines for nurses' to refer to in the event that the policy and procedure manual could not be accessed. Some of the manual was outdated on contemporary practice standards consequently, nurses felt unsure as to hospital and unit expectations, for example as one nurse, new to the ICU stated:

In regards to policy, procedures and protocols we have one but it is very old and no one has renewed it. When I got here on my first day I said to the Director of Nursing, look I am new here. I have the right to be aware of my rights and responsibilities and what I have to do so I need all the protocols for the hospital. The response was, 'Okay tomorrow'. After one week, nothing. It's like they [superiors] are waiting for us [nurses] to make a mistake. Then they will say 'don't you know that it's written in the protocols' but you did not give me a protocol, so you are waiting for me to make a mistake then to judge me.

A particular concern frequently expressed by nurses was the inadequacies of protocols for incident reporting and follow up procedure. Nurses felt vulnerable and sometimes were subjected to a penalty for incidents they had reported. Nurses were therefore, discouraged from reporting incidents and this contributed to a norm of 'cover-up'. Furthermore, the attitude of supervisors influenced whether incidents were reported, or acted upon. This situation in relation to reporting incidents was illustrated by the experience of these nurses:

A patient extubated himself and sometimes they will just make a note in the patient file. If there is some problem then they make incident report and submitted to the charge nurse, charge nurse to the supervisor, supervisor to the nursing office. Sometimes there is a feed back or suddenly they call you for investigation. Incident report is being misused

because they use the issue against you. For example, I had a patient who fell out of bed and they said, it is your fault' they investigated me about it.

If the patient is not really hurt from a mistake they will just instruct you to solve it and it will be finished. It depends on the incident. It depends also according to their view. Sometimes the incident will go for investigation. Whether the nurse is penalized or not depends on the incident itself.

There were a gaps and ambiguities in protocols that were relevant to ICU. Disclosure of patient condition to families by nurses was an example. There was an unwritten 'rule' that only doctors spoke with patient relatives. In the following example, the nurse encountered confusion and sometimes an ethical dilemma, in not having a guideline to follow:

With staff here in the hospital we communicate very freely, when it comes to the family and it's really good as nurses to do. But, we do not have the right to tell all the information to the patient family. I do not know, but they [colleagues] said to me, 'this is the rule and follow it'. They said, 'we want to protect you because some information may be used against you'. I do not know why because the information I tell the relatives is documented. They said, 'the doctor is better. He knows more about the patient which he can tell them. Also we have specialised staff to talk such social workers'. So I told them, 'Ok, in my opinion nobody wants to be a bad news carrier'.

At the time of this study actions were being taken to revise and update the policy and protocol manual as a requirement for hospital accreditation. The nursing departments, including the ICU, were requested by the Hospital Director to update those policies that were pertinent to their area. A draft was prepared for approval by the Quality Assurance Committee just prior to the time of field work for this study, but after eight months it was still waiting for endorsement. The ICU Director explained the sources of information as well as the delays with introducing new policies and protocols as follows:

Well actually, we have one booklet but it's not completed. This booklet is like the standards for ICU. It is actually adapted from the American College of Chest Physicians. Most of our system is using guidelines as adapted by American Colleges of Chest Physician and Critical Care, but it's not yet approved by the hospital because it has to be approved first by the Quality Assurance Committee.

Another aspect of the delay in implementing new policies was the question of borrowing information from overseas. Some of the information had to be adapted and modified to the local conditions. This concern was noted by the Director of Quality Improvement and Patient Safety:

Based on what policy we put forward here. First of all the policy and procedure are not done here specifically. They are taken from international policies or are brought here from other hospitals within the kingdom. There is no real policy making. It's ready made so we just copied it...yes, there is some modification according to our hospital purpose and what is available.

An issue that nurses repeatedly voiced was the inconsistencies in written and unwritten policies, as well as in the protocols and procedures. The limited number of manuals available was often inadequate for direction and guidance for patient care and for nurses' professional responsibility. The process of acquiring policies and procedures from outside the hospital, and the role of the management led to the final themes of the study under the heading of indirect factors that affected the nurses' ability to provide quality care in the ICU.

Indirect Factors

The indirect factors linked with the intermediate factors. Management personnel, by virtue of their seniority and position in the hospital organizational structure, were external to the ICU, but had no direct authority. They did, however, communicate with management personnel in the ICU and indirectly influenced the quality of care by their controlling influence and the decisions they made. There was a disconnection between the reality of nursing practice and authorities' perceptions of quality care. The concept of indirect entities having an influential relationship inside the ICU and their interdependence was captured in this quote by the Director of the ICU:

I have a full authority to implement standards within the ICU. But quality not only involves inside issues, it also involves many other departments and all these things are indirect. It would be difficult for us [in ICU] to implement quality on our own.

Nurses too were aware of the concept of indirect factors that impacted on their practice and nursing care. This awareness was seen in the following quote:

I cannot implement change to the patient in the ICU. Why? Because this is not approved. Other departments outside ICU with their authority make the rules. This process [policies for quality control] has to be approved and studied by them.

Indirect factors were explored through three distinct themes that emerged from the data analysis. These were: leadership and bureaucracy; quality management; and ongoing education.

Leadership and bureaucracy

The theme leadership and bureaucracy referred to the role and actions involving the higher managerial levels of the hospital. At this level of authority priorities were established, policies were developed and processes of operation were decided that ultimately impacted on care delivery in the ICU. The powers at this management level were described by the Hospital Director who stated:

It depends on the ability of your position to make a change. You can make administrative work as if it's easy but sometimes it is something you cannot do [due to lack of resources or experience]. To change a rule [policy] I need to send it to a higher authority. For example, the head of finance who should be a Bachelor of Finance, but unfortunately he is not. So I have to send it to the higher authority, to our Regional Directorate. They may need to send it on to the Ministry of Health for the final say.

It was at the higher management level that resources were selected and approved to supply individual units of the hospital, including ICU. Also major decisions were made about allocation, replacements and maintenance of modern equipment. The Hospital Director stated that the importance of effective equipment was that it could 'work' for the 'end user' adding that:

In changing all the equipment we bought the latest new ones, then we had to make policies for maintenance. We issued these new things [equipment] but who is going to be in charge of the equipment. It was a big question so we made this policy and assigned a person in charge. If you are the end user [nurses and doctors] you have to have medical supplies that work.

Despite the idea that, at the senior management level, the work requirements of the 'end user' needed to be met, there was a lack of communication with nurses and other staff within the ICU. Nurses were rarely, if ever, consulted or involved in discussions about acquiring equipment. Consequently, there was a lack of understanding about the common material needs for operating the unit. Clearly, the senior managers viewed the resource needs of ICU, as being associated with impressive technology.

Statistical information and reports arising from the ICU and other departments were forwarded upward to higher levels of hospital authority. Depending on the nature of information and the provincial requirements, data was then sent to the Regional Directorate. Such data, included incidents reports, bed occupancy and patient admissions. This information was used for analysis and investigation of problems and to determine changes in the hospital services. The Hospital Director explained the process as:

All the incident reports and statistics, they will bring it to me. It shows how the hospital was running the last twenty four hours, how many patients admitted, how many in the OPD (Out Patient Department), what problems happened in ER (Emergency Room) it comes to me on my table every day. The most important thing is how many new files opened, how many patients are admitted, how many patients are discharged and how many operations done and how many deaths on that day only. Then I will pick some and send it for analysis to the quality assurance committee.

Quality management

Another theme that was categorized in the indirect factors was those associated with quality management. Quality management involved all those processes initiated by the hospital for control of patient care services. The theme encompassed quality assurance and quality control and various specific strategies for ensuring hospital compliance with set standards.

At the time of this study preparation for hospital accreditation was in progress. This was the first time in Saudi Arabia, the MOH had introduced a policy decreeing mandatory accreditation for all public hospitals. According to the Hospital

Director a significant efforts were being made by the health authorities to ensure quality and safety standards for health care. The expansion of hospitals including specialized units had influenced the government action. This point was made by the Hospital Director:

Fifty years ago this hospital was only a few beds and with time passing the hospital was extended and became bigger. Recently there was a policy for accreditation from our government, the Ministry of Health. Our minister established accreditation centers for all hospitals in every province...To obtain accreditation you have to meet the set of standards, so we can achieve quality of care.

At the time of this study the hospital established a Quality Improvement Department and appointed a Director of Quality Improvement and Patient Safety. The Director had responsibility for planning and organizing quality and performance measures including risk management standards throughout the hospital (see Appendix, I). In addition, the quality improvement department introduced a policy and procedure document entitled Quality of Care (see Appendix J). The purpose of the document was to ensure that health care services provided by the hospital met professional practice standards and complied with ethical conduct as set by the regional hospital. According to the hospital's quality improvement document, nursing was classified as one of the functional areas for study improvement.

Implementing risk management was one of the criteria for hospital accreditation. The policy at the time of this study, focused on the safety of the hospital premises, equipment fire prevention or other damage (see Appendix K). No provision was included that protected patients or staff from injury, nor did the hospital have any insurance cover, for example, there was no evidence that a nurse would be compensated if they sustained an injury at work.

Various committees were formed and processes commenced for hospital data collection. To obtain accreditation, for example, there were committees to deal with statistical information as well as a Quality Assurance Committee and a Quality Control Committee. The Hospital Director described the various committees as:

We formed 26 committees, such as morbidity and mortality, infection control, and auditing committee for medical records and the filling system...all the comments and report from whatever committee will go

to the quality department. The Quality Improvement Department then analyses it.

Quality control measures were introduced, but some difficulties were encountered during implementation. A particular problem at the higher level of management was a lack of clarity in the aims and a lack of expertise in quality standards for management. The Training and Development Director when asked about the implementation of quality care standards remarked:

A very important reason why it is quite hard to implement the standards is the absence of specialized and qualified individuals to apply the quality standards. Also there is no clear vision and mission that we all follow.

Senior managers perceived that staff were 'reluctant' to cooperate with managers and to make changes for quality care. This was illustrated by the Training and Development Director who commented:

Personnel themselves have a lack of awareness of the importance of the quality. They are reluctant to cooperate with those people who are assigned to apply quality standards.

Quality control measures were seen as the major responsibility of senior managers. The Quality Improvement and Patient Safety Director identified that there was a short fall of information, guidance and incentives provided for staff to implement the expected quality standards. He stated that:

Yes. Theoretically we have been informed that the national standards will be applied in our hospital. But staff did not understand the meaning of standards and indicators. Some of them were unwilling to participate and that is because of the lack of information, number one. Number two, they are too busy and involved in other medical things that interest them. I would say if the higher authorities would reinforce the quality standards it would help, but as long as it's a side thing we have a problem...I want all people to attend a lecture on quality. It's not reinforced. The persons attending are mostly nurses. Ok, but the ones that I want to attend, they do not show up...We can't maintain quality if we do not have quality in the first place to maintain.

Nursing staff had multiple problems in relation to introducing quality standards. Essentially, nurses were reluctant to participate due to misunderstandings and 'misconceptions' that arose from, 'a lack of knowledge of what quality means'. To explain these constraints and the reluctance, or 'resistance', of staff, the ICU Director noted that:

I think people [staff] are not yet willing...Generally, there is like a resistance to implementing quality. I think part of this is the reporting of everything, but one of the real difficulties in general is a lack of knowledge of what quality means. The other thing, I think, is reluctance from authorities to actually implement quality. And part of the resistance maybe people [staff] feels that quality is more of an investigation. Yes there is a misconception that quality might relate to them to medico-legal issues. I think too that all this reflects a lack of knowledge of what quality means.

In addition to knowledge there was a lack of support for nurses in ICU to make the changes required for quality assurance. For example, the anxieties that surrounded incident reports were a major deterrent for nurses. The policy set by the Quality Improvement and Patient Safety Director for incident reporting was all incidents reports shall be forwarded to QI coordinator after being seen for completeness and signed by the Head of Department. Due to a lack of clarity in this policy and nurses uncertainty, it was not strictly followed and nurses often felt that they would be blamed for an incident. Consequently, nurses did not always comply with the incident reporting policy. As another example, infection control standards were difficult for nurses to comply with because of insufficient personal and protective equipment and lack of resources. As stated previously nurses often had to reuse disposable equipment. Also hand washing was compromised when they had responsibility for more than one patient. Nurses' basic problem with the quality standards was the lack of support with incident reports and a failure to make available the resources needed by a nurse to ensure safe patient care.

I was taught that quality was doing the right thing every time and always. But sometimes we cannot give the best safe care to the patient. We cannot do what they [supervisors] see as right, not because we do not want to do it, but because they are not available for us to help. Sometimes there is nobody that can tell you what is right way.

Difficulties encountered in establishing accreditation requirements included a lack of expertise and the limitations of staff awareness of the concept of quality and its relevance to standards for practice. These deficiencies impeded progress in adopting a quality of care framework for ICU. As identified by the Quality Improvement and Patient Safety Director, in-service education was needed to increase the knowledge and understanding of quality.

Ongoing education

The final theme identified in the indirect factors was ongoing education. This theme encompassed opportunities and barriers to advancing nurses' knowledge and skills for the specialty of ICU nursing. Ongoing education was central to upgrading nurses' performance in the ICU and depended on factors external to the practice setting. These factors included lack of provision by senior management for staff-development, such as case conferences seminars and the opportunity to study at a postgraduate level.

On the rare occasion when one nurse participated in a case study seminar, she expressed satisfaction with the contribution she made with other health professionals and the feedback she received:

Now they believe in me in doing lectures. This is just one case study, of course, with a number of colleagues. We did a very nice case study that was attended by our hospital director and the medical director. They really were impressed. He said this is the first time to attend a case study presentation by the ICU nurses. They are really better than the residents the medical residents. So it was, oh my god, very nice and to be elected as a guest speaker it was also an indication of them believing in my abilities and trusting in me. Now I am invited to lecture in the proposed ICU program.

Among senior hospital officials there was frequent discussion about the need for further education for nurses. They associated this need with the high level of specialisation and the limited preparation of most nurses, in the ICU. The Hospital Director described the need for further education of local nurses for introducing quality assurance. To this end Saudi nationals were supported to study overseas, while others were assisted to study within the country. This approach was taken to advance nursing expertise in Saudi Arabia through exposure to international leading university schools of nursing. In his view the inadequacies of nursing education hindered the full operation of ICU:

Some of them we sent outside [of Saudi Arabia] and some of them send them inside the kingdom...Manpower is not really enough. Because ICU is 36 beds I cannot fully operate it until I have enough staff. The other issue that nurses face is lack of education. Look to our nurses what degrees they are having, a few with bachelor and the majority only with diploma qualification.

Furthermore, ongoing education for Saudi nurses was an imperative for the hospital. The ICU Director noted that expatriate nurses, although better qualified, lacked Arabic language skills and knowledge of cultural norms. This was a major barrier to communication between staff, patients and their families. To the Director a solution lay in further education for Saudi nationals. He stated that:

Foreign nurses, maybe they are more educated and have more knowledge coming from overseas and know their own culture. But because of the language there is a conflict for foreign nurses with the patient which is communication. Many of them do not speak Arabic. It is really difficult that we do not have enough graduates and skilled nurses. The language is prominent problem and will not be solved till we have our own national staff.

The value of nurse's continuing education was clearly to add expertise and prestige to the hospital. The Hospital Director reported on one nurse who had the opportunity to undertake further study overseas. To him the advantages of this nurse's education was to 'bring new ideas', 'new knowledge' and 'enrich us'.

The nurse we sent to Australia to study. It takes two years or three years but she will come back and will bring new ideas and new knowledge and implement it and they can enrich us.

The reality was that while medical personnel were sent to other countries to study, nurses were unlikely to be offered the same opportunity. Evidence from records viewed at the hospital showed that in the three years prior to this study, only one nurse had studied in Australia and was the only Saudi national to have such an advantage.

Despite the ideals of the hospital hierarchy for nurses' to undertake formal education, nurses in the ICU encountered recurrent difficulties with accessing higher education. Local nurses for example were frequently denied the chance. In addition, in-service courses were not available in the hospital. Although employees are entitled to 14 days annually, the ICU staffing situation took priority over nurses' taking study leave. The following quote is an example of the experience of the majority of ICU nurses:

It is hard. Education, courses attendance we are suffering to attend any course. If we go for the courses, it's during our off time. Sometimes we are not allowed to take our education leave. We have already 15 days

education leave. We are not allowed to take it, because of the shortage of staff, and because of the heavy work duty during the week.

Nurses who did participate in continuing education, were expected to attend in their off duty time and pay the fees. As seen in the following example:

Actually we are told, 'You will be given continuing education'. But aside from that we don't have time to attend. We don't have money to pay for them. We have continuing education, but the problem is they are asking us to pay. Don't you see the post there [indicates the poster displayed on the wall]. It says, 'How to do proper wound dressing'. If you will attend you have to pay 200 Riyals. This is costly.

The renewal of nursing registration in Saudi Arabia, stipulated that nurses were required to gain certain credits for hours in training and development. This requirement, however, was not enforced. Continuing education attendance was mostly an impossible criterion due to the limitations of time and staff shortages in the ICU.

Summary

Multiple and complex factors from various levels of involvement influenced the quality of nursing care in the ICU setting. Three dominant areas were found in the data analysis and were categorized under the headings of **direct**, **intermediate**, and **indirect factors**. Each theme under these headings was linked in its relationship with ICU. Direct factors featured characteristics within the ICU environment that directly affected nursing care. Intermediate factors encapsulated regular but discontinuous elements impacting on nursing in the ICU. Indirect factors referred to features of overall authority, situated outside the ICU practice setting. Within these factors were themes, each clarifying and explaining aspects of the context in which nursing care was provided. Together the themes contained issues that had a profound influence on the quality of nursing care in the ICU.

Within the direct factors nurses' continuous responsibility for patient care together with a demanding workload, colleague support, unit leadership, orientation, and resource limitations either supported or hindered nurses' ability to provide safe

and competent care. A lack of material resources, for example, had implications for infection control and for compromises in patient care by nurses. The theme of proximity exemplified the emotional sensitivity of nurses' relationship with patients.

The intermediate factors included themes of relationships with supervisors, and policies and protocols. Communication between the medical staff and nurses, for example, affected care decisions and interventions for patients as well as the resolution of problems. Collaborative relationships were frequently overshadowed by a disregard for nurses' integrity. This was demonstrated in instances of bullying and of blame toward nurses by management personnel. Consequently incidents went unreported by nurses and unsatisfactory norms of practice were perpetuated. Inconsistencies between written and unwritten policies and protocols contributed to the nurses' role uncertainty and influenced their attitudes to care responsibilities.

Leadership and bureaucracy and quality management were the themes under *indirect factors*. At this level hospital decisions were made for planning and implementation of standards that ultimately determine priorities for performance of patient care, including ICU. There was a disconnection, however, between the real practice needs and authorities' perceptions of quality, such as their oversight of the basic supplies necessary to meet minimum standards of care. Quality management encompassed quality assurance and quality control. At the time of this study, processes for hospital accreditation were being established in the regional hospital in accordance with a decree from the Ministry of Health for all hospitals in Saudi Arabia. Difficulties encountered in establishing accreditation requirements included a lack of expertise and the limitations of staff awareness of the concept of quality and its relevance to standards for practice. These deficiencies impeded progress in adopting a quality of care framework for the ICU. Ongoing education in an academic environment was usually unavailable for nurses in ICU. This situation further inhibited the advancement of knowledge and skills for quality nursing care.

The total effect of multiple and complex levels of influence in the ICU setting complicated nurses' performance of patient care. A discussion on these influences and their significance for the quality of nursing care in the ICU is the subject of the following chapter.

CHAPTER SIX

DISCUSSION OF FINDINGS

Introduction

The previous chapter detailed both the demographic profile of the nurse participants and their responses to questions concerning their ability to provide quality care in the ICU. In keeping with the case study approach and the exploration of a bounded system the analysis of data was categorised into factors that had a Direct, Intermediate and Indirect relationship to nurses. In each of these categories thematic analysis uncovered themes and sub themes. Themes in the direct factors were: **Continuance** and sub themes of *Shift work arrangements*, *Workload*, *Collegiality*, and *Unit management*. The second theme was **Burden of responsibility** with sub themes of *Educational preparation* and *Availability of Resources*. The third theme of direct factors was **Proximity**. The two themes in intermediate factors were: **Relationships with superiors**, and **Policies and protocols**. Themes revealed in indirect factors were: **Leadership and bureaucracy**, **Quality management**, and **Ongoing education**. Together these factors had a profound influence on the quality of nursing care in the ICU. Some had distinctive characteristics whilst others overlapped and were interrelated, clarifying and explaining aspects of the complex, open system in which nursing care was provided. In an attempt to shed light on this dynamic interaction and reflecting on the emergent model depicted in chapter 5, a further review of the literature was undertaken. The review uncovered the theory of complexity, which had a striking relevance and relationship to the study findings and clinical governance. This discussion chapter pulls together these concepts and discusses their relevance to the findings of this study.

Clinical governance framework

Analogous to complexity theory is clinical governance which developed as a result of the concern about quality care. It was introduced as a structured system for promoting the continuous quality of health care delivery and focused on what occurs at the bedside: in wards; units; clinics; and where health services are provided (Braithwaite & Travaglia, 2008). Clinical governance is a framework for ensuring that each individual is accountable for their actions, and that clinical quality exists throughout the entire organization (McSherry & Pearce, 2007). It was enacted in the UK through statutory changes imposing a legal duty of quality on the chief executives and Boards of NHS organisations. This created a corporate responsibility for the quality of clinical care (Boaden & Harvey, 2008).

One of the key themes in clinical governance is the establishment of an honest and open culture that encourages and responds to staff and public opinion (Gray, 2005; McSherry & Pearce, 2007). These values, however, can only take place where the organizational infrastructures support the overall aims of corporate, clinical and non-clinical aspects of governance (McSherry & Pearce, 2007). Essentially, clinical governance demands a major cultural change, and cannot be simply imposed as it entails a shift in attitude and behaviour (Travaglia & Braithwaite, 2008; Walshe, et al., 2000). Significantly, it is collaboration and partnership between management and clinicians (Robinson, 2008; Travaglia & Braithwaite, 2008).

Participation by employees is seen as an important part of clinical governance (O'Donoghue, et al., 2005). Moreover, it is preferable to have a collaborative approach to patient care rather than monitoring, inspection and control (Ledema, et al., 2005). Sharing patient information, discussing any difficulties encountered and showing respect for different roles and competencies were seen important by both medical practitioners and nurses in achieving quality care (Hudelson, et al., 2008). The model of collaboration and multidisciplinary team work has been embraced by: the Royal Australian College of Surgeons; the National Health and Medical Research Council; the National Breast Cancer Centre; and the Australian Council on Safety and Quality in Health Care (Moorin, 2005; Willis, et al., 2008).

According to complexity theory when groups interact, develop, organise and adapt to the crisis situation and mutually affect each other it is a holistic phenomenon, because the whole is more than the sum of the parts (Holden, 2005). In a study which assumed that health care organisations are examples of CAS, Hobar et al. (2001) created uniform protocols in neonatal intensive care using the collaborative model. The study found significant improvement in patient outcomes. Two important interventions in the study were developmentally supportive care, and maintaining a culture of cooperation and teamwork that encouraged all members to feel responsible for outcomes.

Whilst there are no ‘magic wand’ solutions to providing quality and safety in health care, some States in Australia have embraced clinical governance as a strategy to improve health care. The clinical governance framework in Western Australia has been locally customised and culturally adapted, with leadership from the Chief Medical Officer (WA), this is similar in other countries such as the National Health Service (UK) and the Institute for Health Care (US). It was important that stakeholders understood that it was not an imported version and that front line clinicians who delivered care were at the heart of patient safety improvements (Jones, 2008). It has been argued that the key to solving problems is for leaders to build relationships between clinicians (Anderson & McDaniel, 2002; Holden, 2005). Such collaborative practice can positively affect patient outcomes (Holden, 2005). In a multidisciplinary perspective clinicians are those health professionals that interact directly with patients. Cognisant that the medical literature viewed clinical governance as a management led initiative (Som, 2005) medical practitioners were consulted and invited to participate in the development and implementation of the model. The message was that clinical governance should be viewed, not as being imposed by health administrators, but rather an opportunity to provide quality care (Jones, 2008).

In 2001 the Western Australian model of clinical governance was first adopted and in 2006, it was reviewed in light of several barriers to its implementation. The aim of the third Strategic Plan for Safety and Quality in Health 2008-2013 for Western Australia was to harmonise governance and accountability,

with patients taking a priority. Communication was seen as pivotal to the whole process of clinical governance. That is communication between all stakeholders which included: health professionals; consumers; patients and their carers; and to the wider community. To maintain a continuum of care across all levels of the health system, knowledge and information were seen as interacting across the spectrum (Department of Health WA, 2008).

Viewed through the lens of the CAS model, it is possible to visualise key components and relationships within the Western Australian clinical governance framework. The process of developing, implementing, reviewing and adapting, and how order emerges from interactions with agents, is an example of a CAS (Anderson & McDaniel, 2002). The understanding of health care as a CAS involves cultivating an environment of listening to people, enhancing relationships and allowing creative ideas to emerge by creating small non-threatening changes that attract people (Holden, 2005). The essence of CAS is captured in the relationships among agents rather than in the agents themselves (McDaniel & Driebe, 2001). Emergence, another characteristic of a CAS, is enhanced by the diversity of agents, because of the greater interaction and richer patterns that evolve (Holden, 2005; McDaniel & Driebe, 2001). Emergent behaviour arises from the co-evolution resulting from the relationship between the CAS and the environment, where change is constant in evidence and the two co-exist and influence each other (Chaffee & McNeill, 2007).

The Western Australian clinical governance framework has evolved by listening to stakeholders and focusing on six strategic initiatives to obtain safety and quality. At the forefront are two key drivers: leadership and governance, structures and processes. It was planned in the next five years the Western Australian Council for Safety and Quality in Health Care (WACSQHC) with their partners will be working closely on their shared vision to provide patient-centred, safe, high-quality health care system (WA, Strategic Plan for Safety and Quality in Health Care 2008-2013). A CAS makes meaning and prepares the organisation to meet an unknowable future by unleashing the organisation's potential (McDaniel & Driebe, 2001). In this way the CAS can learn and adapt overtime changing the structure of the system (Clancy, et al., 2008). It is this diversity that enables adaptability, creativity and change within the organisation. Thus, the implementation of the Western Australian

model of clinical governance into the health care system can be viewed as bearing the hallmarks of a CAS. McSherry and Pearce (2007) concur by stating that ‘clinical governance is a highly complex system containing and evolving many themes and management and organisational processes in the pursuit of individual and organisational clinical quality’ (p. 34).

The discussion will now turn to factors that were found in this study that influencing the quality of nursing care in the ICU. Where appropriate, reference will be made to the literature for convergent and divergent views to make sense of the findings. The remaining part of the chapter will centre on intermediate and indirect factors with links to complex theory and clinical governance.

Factors influencing quality of nursing care in the ICU

A review of the literature traced the reasons for the importance of quality in health care in recent times. It uncovered that the major concept of quality was an abstract and elusive term that had not been adequately operationalised for research purposes. The responses from the participants in this study concurred with other studies. That is, fundamentally quality had a different meaning to different people based on their perspective and orientation (Wang, et al. 2006; ACSQHC 2004; & NICS, 2004). These findings also suggest that even though there were differences there were also similarities in the understanding of quality as it related to ICU nursing.

The context of the nurses’ responses to the question of quality was in relationship to patient care rather than quality *per se*. Interestingly, most participants understood that it was associated with standards and doing the ‘right thing’ and ‘care being free from error’. They also felt that team-work and ‘harmonious relationships’ played a large part in influencing patient outcomes. Some nurses felt that a clear job description and performance of itemised duties could influence the care provided to patients in the ICU. A continuous undercurrent in all the participant’s responses was the need for continuing education.

The analysis of data revealed that there were multiple, complex and interrelated factors that influenced the quality of nursing care in the ICU. The 'environment' and 'everything around' was seen as affecting the nurses' work and could potentially impact on patient care. The complex needs of the patients created heavy workloads and stressful situations which stretched the nurses individual coping mechanisms. As one nurse stated it was 'the environment and the things in the ICU that makes you stressed'. Given this general statement a closer look at what constituted the environment and the 'things' in it was needed to gain a better understanding of the factors that influenced nursing care. Within the direct factors a number of themes emerged. The discussion will now turn to each of these themes.

Continuance

A nurse's role has a cyclical, continuous nature of assessment, planning, implementation and evaluation of patient care. In this role the nurse is expected to exercise autonomy and authority through making clinical decisions. The nurses in this study perceived that being able to provide continuity of care was a hallmark of quality. They were ever vigilant to the changing condition of patients and remained exclusively on the ICU room, whilst other health professionals entered the ICU periodically to provide an aspect of treatment.

Direct observation and patient care remains the key to patient safety. A skilled human observer is more reliable and accurate in patient assessment and critical incidents are more likely to be detected through direct patient observations (Coombs & Lattimer, 2007). Nurses are essential for ensuring effective communication among health care team members and the continuity of patient-centred care (Patrick, Laschinger, Wong, & Finegan, 2011). They are also more likely to identify threats to the wellbeing of the patient and coordinate responses from other health care professionals (Havens & Aiken, 1999).

The nature of work in ICU is challenging as the condition of patients changes quickly from moment to moment with their life hanging in a balance. Nurses recognise potential problems and use critical thinking skills to make immediate

rational decisions. This work can be extremely stressful and demanding considerable cognitive, affective and psychomotor effort. Thus, the ICU nurses workload on all shifts is physically, psychologically and socially demanding.

Shift work arrangements

The Saudi working week of forty eight hours for the nurses was far in excess of nurses working in the Western world, for example 38 hours in Western Australia. On night duty the nurses were expected to work every night for a month with one night off duty each week. The lack of flexibility in the roster was a frequent source of dissatisfaction amongst the nurses. Working such hours, nurses felt socially isolated and physically exhausted with one nurse in this study commenting that it was 'inhumane'. Another commented that having 'one day off ... is really difficult, we are not robots we are human [and] have limitation in working so they have to understand this'. This finding was consistent with Pettersson, Arnetz, and Arnetz (1995) who reported that nurses were too tired to socialise after work.

In addition to the normal eight hours on duty, nurses usually arrived prior to the commencement of a shift and remained after the end of a shift in order to allow time for the handover of patients. This unpaid time discrepancy increased the total number of hours the nurses worked. Scott, Rogers, Hwang and Zhang (2006) concurred with this finding revealed that nurses in their study rarely left work on time. Significantly, there was a correlation between longer work duration and an increase in the likelihood of errors and near errors. Nurses who work night and rotating shifts often experience fatigue and irritability and have difficulty remaining awake on duty (Rogers, Hwang, Scott, Aiken, & Dinges, 2004). Experience in other industries also suggests that the accident rate increases when work was extended to 12 hours or more and was also associated with decreased levels of alertness and or vigilance (Scott, et al., 2006).

A survey of doctors in five countries ranked nurse staffing levels as the most serious concern of being able to provide top quality health care (Aiken, Clarke, & Sloane, 2000). This finding concurred with Coombs, & Lattimer (2006) who found a

strong association between staff-patient ratio and lower mortality rates. The Royal College of Nursing in the UK calculated that there needs to be a minimum of seven nurses per patient for continual 24 hour nursing presence (Royal College of Nursing, 2003). The American Association of critical care nurses has established that the appropriate nursing numbers, skills and experience to meet the patient's needs is the 'gold standard' (AACN, 2005). In California, for example, the staff ratio is 1:1.

Staffing levels of nurses in the UK and US has been of major concern to quality improvement initiatives. It was found that hospitals with more favourable nurse staffing demonstrated the best outcomes for patients and nurses. Low levels of nurse staffing in UK hospitals had the same detrimental effects on patient outcomes and nurse retention as those in some the US hospitals (Rafferty et al., 2007). Similarly, studies have also found that a reduced number of registered nurses are associated with adverse events such as complications and medication errors (Kovner & Gergen, 1998; Needleman, et al., 2002; Sung-Hyun, Keftefian, Barkauskas, & Smith, 2003). In ICU reduced number of registered nurses has also been associated with an increased time taken to wean patients with chronic obstructive pulmonary disease (COPD) from mechanical ventilation (Thorens, Kaelin, Jolliet, & Chevrolet, 1995). The occurrence of each adverse event has also been associated with a significantly prolonged length of stay and increased medical costs (Sung-Hyun, et al., 2003).

The global shortage of nurses has influenced the provision of high quality care with inadequate staffing being linked to an increase in adverse events, mortality and morbidity (Rothschild et al., 2006). Significantly, patient centered care and emotional support can also be lost (Ball & McElligot, 2003). Aiken, et al. (2001) concluded that in five counties only 30-40% of the population said there was sufficient staff to care and get the work done. It is not surprising that the complexity and range of patient needs are too much for one person and that different people need to be employed to take responsibility for particular aspects of management (Welch & Theaker, 2009). Buchan, and Dal Poz (2002), cautions that many studies into skill mix have been undertaken in the US. Skill mix is both a determinant of and determined by organisational and system context. Findings from studies conducted in the US may have little relevance to other health systems and countries as it is

impossible to prescribe a universal ideal skill mix. The main issues identified by Endacott (1996) concerning skill-mix, is the need to ensure that nurses develop appropriate knowledge and skills for undertaking specialist ICU training, to establishing clinical supervision and for the role of the unqualified person undertaking patient care activities. Carr-Hill et al. (1992) suggest that qualified nurses have a positive effect on quality of care. Andrews, Burr, and Busby (2010) found that nurses in their study felt overwhelmed by inappropriate nurse-patient ratios and high patient acuity both of which increased their workload.

Workload

In this study the workload of nurses in the Saudi ICU was constant with the ratio of nurse to patient being one-to-one or one-two. Unlike ward nurses, ICU nurses quite often did not get an opportunity to sit down or have a break. In the ICU there was an endless cycle where one shift began and another shift ended with no down time. Unlike the wards, handover was given at the patient's bedside to provide continuity of care. Furthermore, the intense workload was such that, sometimes aspects of care were unfinished despite a nurse's endeavours. This issue was captured in the following statement: 'Maybe we will not have time to sit down even, because most of us are having two patients and not having time even to finish our work'. The hospital director was also cognisant of nurses being in the patient's room for eight hours and the concept of ICU psychosis.

Cronqvist, et al. (2001) found that nurses unable to complete patient care because of interruptions from others and new patients being admitted, was a strong source of stress. Lack of control over patient care and unpredictable events was unsettling and left nurses with the uncomfortable feeling that something important had been forgotten. The consequences of this internal conflict, was stress that exceeded the nurses' psychological and emotional resources. Similarly, Laschinger, and Wong (2006) found that a heavy workload was a predictor of nurses' emotional exhaustion with Cronqvist, et al. (2001) adding that this condition, along with depolarisation, were seen as components of burn out. High levels of emotional

exhaustion and greater job dissatisfaction in nurses were strongly and significantly associated with patient-to-nurses ratios (Aiken, et al., 2002).

Nurses in Cronqvist, et al. (2001) study indicated that they could handle the stress of a heavy workload if they felt they were providing good care. This finding correlated to Heath's (2005) study, which found that whilst the everyday business of critical care is labour intensive, the real moments of taking time to share joyful, painful and tearful experiences with patients and their families was the core of critical care. The need to be in control of their work was seen as influencing quality nursing care rather than the heavy work load itself. This finding aligned with Pettersson, Arnetz, and Arnetz (1995) who found that job control and high job satisfaction were related. Moreover, nurses with low job satisfaction were twice as likely to experience sickness and absenteeism. This issue of job satisfaction and workload is a circular negative action and reaction. That is, lack of control over a heavy workload can lead to a decrease in job satisfaction which in turn leads to sick time and a shortage of nurses and an increase in workload. Each one of these issues impacts on patient outcomes.

The number of nurses rostered in this current study was irrespective of patient acuity and the time of day. Several studies have suggested that patient acuity has a major impact on nurses' workload and patient outcomes (Andrews, Burr, & Busby, 2010; Laschinger, & Wong, 2006). In this study, quality care was compromised because of insufficient time allocation for heavy workloads. In a similar study, Andrews, Burr, and Busby (2010) found that failure was seen as being associated with nursing and the hospital administration's inability to recognise work requirements. In this study, the heavy workload was acknowledged by the senior managers who were frustrated at not being able to change the shifts because of the shortage of nurses. As one manager stated there 'no other choice but to accept and work with what we have'.

In this study critically ill patients requiring constant monitoring, for example, patients with multiple fractures, unconscious and connected to a ventilator, contributed to nurses increase workload. The Royal College of Nursing (1995), however, found that workload estimates can sometimes be inversely related. A

hypoxic confused, but spontaneously breathing patient, for example, may require greater nursing activity than a ventilated patient. In this study the nurses' workload was difficult when there was a staff shortage and/or a lack of experienced staff despite patients being in a stable and conscious condition. Workload was also exacerbated when the nurses had to mentor a new nurse to the ICU, or when they had to precept a student. Ball (2003), concurred with this finding; adding that reduced knowledge and less experienced nurses could be associated with the potential for adverse outcomes. Variations in mortality may also be partly explained by excess in ICU workload (Tarnow-Mordi, Hau, & Warden, et al., 2000).

In addition to the workload up to five relatives or friends could visit in the afternoon any time for 15 minutes. Nurses requested visitors' cooperation in allowing them to attend their relative which posed extra stress in trying to complete patient care tasks. Additionally, it was during this time that relatives asked nurses many questions about the patient's condition. Wallis (2005) concluded that nonverbal information is continually being passed and received between patients, their family and the nurses. There is a continual monitoring of facial expressions and the demeanour of nurses, which elicits confidence in the veracity of the words used to explain the patient's condition. This feedback from the patient and the relatives draws the nurse into a close relationship (Beeby, 2000). Being physically close helps to build the patient's and the families trust and confidence in the care being provided. It is understood that relatives experience a strong commitment to watch over and protect the patient and it is further suggested that nurses play an important role as gatekeepers at the patient's bedside. Carrying out this activity, however, requires nurses to have strong discretionary power (Ågård & Lomborg, 2010).

A comparison of least experienced nurses with more experienced nurses suggested that the least experienced nurses were more reluctant to ask relatives to leave the bedside (Ågård, & Lomborg, 2010). Likewise, nurses in this study were hesitant to communicate with the relatives and felt they could not carry out the prescribed nursing care under scrutiny from relatives. This finding may have been associated with underdeveloped ICU nursing skills.

A lack of having the right skill mix and staffing levels can lead to an emotional step back. Attending to bio-physical needs becomes a priority with

psychosocial and emotional needs of the patient taking second place. In these situations the nurse shoulders anxiety and guilt and a feeling of failure (Beeby, 2000). To-date no one tool reflects the totality of the nursing workload within critical care environments and there are significant differences between health care systems suggesting that caution must be taken when extrapolating findings from international studies (Arthur & James, 1994).

Collegiality

Nurses in this study relied on each other for support both in their everyday work and during times of unpredictability. The environment in the ICU was characterized by its tensions between expectation and reality. There was, however, a sense of solidarity amongst the nurses. On special occasions such as a farewell or a celebration, nurses brought cakes and small gifts to show a colleague how they were valued. These interactions between nurses were seen to increase morale in the unit and provide necessary relief to the pressure of work. Collegial support and collaboration between the nurses not only sustained working relationships, but also facilitated the continuity of patient care. Dunn, Wilson, and Esterman (2005) concurred with this finding stating that communication with peers was related to job satisfaction. The nurses helped their colleagues, such as providing relief for each other at break times and explaining unfamiliar procedures to nurses new to the unit. Senior nurses frequently shared their knowledge with new nurses, although it has been found that this sharing can distract from patient care (Kalisch, 2006).

Quality care in the ICU depends on a collective interdisciplinary commitment to continuous quality improvement (Curtis, et al., 2006; Department of Health-Emergency Care Team, 2005). Teamwork includes members who share knowledge, skills, and best practice. In a multicentred study the interdependence of different critical care personnel interaction and communication, were found to be more significant predictors of patient mortality than the therapies used or the status of the hospital (Tarnow-Mordi, et al., 2000). It is suggested that collaboration may benefit patient outcomes as staff are more satisfied with their contribution which can lead to retention of staff (Darvas & Hawkins, 2002).

Collaboration between nurses and physicians is linked to positive outcomes for patients especially in the ICU (Stein-Parbury & Liaschenko, 2007). Effective communication is a challenge, however, in a bureaucracy characterised by a hierarchical organisational structure, especially where physicians believe they are the final arbiter of clinical decisions (Stein-Parbury & Liaschenko, 2007). Nurses in this study whilst generally having assistance from their colleagues, were hampered by a lack of teamwork from some of the doctors, who were not willing to help with such activities as lifting patients onto the bed.

Stein-Parbury and Liaschenko (2007) concluded that the knowledge a nurse uses in the performance of patient care, centres on the pathophysiological aspects of the case, and an understanding of the patient's experience of the disease and the response to treatment. It also involves knowing the patient as a person with the biography. Stein-Parbury and Liaschenko (2007) using this schema found that when physicians exhausted their case knowledge in solving a patient problem they left patient management to nurses. This 'walking away' left nurses feeling devalued. Additionally when nurses sought physician's assistance when case knowledge was insufficient, as in the situation of confused patients, nurses felt abandoned, rejected or ignored. Similar feelings were experienced by nurses in this study as they sought their colleagues to explain unfamiliar procedures and help with patient care. In some instances the person selected may not have been appropriate. A study of nurses' problem solving skills determined that 92% used first order problem solving skills. Such skills involved focusing on doing what it took to get the job done and involved only those people who the nurse felt comfortable with, not necessarily the ones who were best to solve the problem. Whilst this type of problem solving gave the nurse a sense of satisfaction, it was remedial in that the root of the problem was not addressed (Tucker & Edmondson, 2002).

Davidson, Elliot and Daly (2006) suggest that clinical leaders can be nurtured and developed through collegial collaboration. In this study, however, the shortage of staff and cooperation from allied health personnel was a barrier to collegial support. At times when nurses had to manage a patient care on their own, they

experienced isolation and vulnerability. These feelings may have decreased with guidance and support from unit management and the promotion of teamwork.

Unit management

Nurses in a position of leadership in this study were of the Head Nurse, the deputy, as well as charge nurses for each evening and night shifts. Since there were several people with different titles in a position of leadership, the title unit manager will be given to mean all these people in the remainder of this discussion. The unit managers' responsibilities involved ICU coordination as well as support and supervision of nurses. Activities included monitoring and recording incidents related to such issues as infection control and patient injury.

Nurses in this study complained that nurse managers listened to their needs and suggestions, but mostly did not take appropriate follow-up action. The Head Nurse was singled out as being inflexible at times when the staff requested a change of shift or sick leave. This lack of an adequate response discouraged some nurses from raising their concerns about patient care and affected the confidence of nurses and the morale of the unit. Nurses felt abandoned when nobody acted or listened, even though they reported and documented their concerns. This finding was corroborated by Hazelhurst and McMullen, in their (2007) study, which also suggested that nurses whilst reporting problems did not receive adequate support.

Nurses in this study believed that the unit manager's priority was to comply with paper administration and work rosters rather than focusing on the quality of care delivery, or their staff well-being. This was similar to Robbins (2002) finding, that suggested that managers were concerned with the business of the organisation rather than people. They emphasised rationality and control focusing on goals and the resources of the organisation rather than people. The nurse participants in this study stated there was a lack of management understanding of quality care factors. This finding was similarly supported by other researchers including Rothchild, Hurley, Landrigan, et al. (2006) who found that nurse manager need to have an understanding of factors that influence the delivery of quality nursing care and the

maintenance of a healthy environment for individuals and the team in order to be effective. This understanding needs to be greater than a single safety incident. These findings were consistent with adult learning theories which suggest that self-initiated tasks combined with an immediate problem solving are stronger learning forces than delay feedback from management (Elder, et al., 2008).

Nurses in this study felt that they needed feedback from their managers on management of patient care and monitoring of their workload, but this was not forthcoming. This finding equates to West, Borrill, Dawson, et al. (2002) study which found that there was a strong association between the quantity and quality of staff appraisals and patient mortality. Moreover, a good working relationship with managers was found to be important for obtaining positive evaluations of work performance and related to job satisfaction which resulted in a positive work environment (Seo, Ko, & Price, 2004).

It was expected that unit managers in this study would demonstrate leadership responsibility in the ICU. The participants, however, felt that clinical leadership was not demonstrated and that there was a greater emphasis on management and administration. This resulted in dissatisfaction in areas such as teamwork, collaboration and staff well-being. Managers were viewed as being divorced from clinical care and distant from the bedside. This finding is supported by Clark (2008) who stated nurses may not think of themselves as leaders because they equate leadership with specific job titles rather than a way of thinking and behaving.

Leadership can be considered key to ensuring a well-functioning team that leads to improved quality outcomes. Similarly, Kippist and Fitzgerald (2009) pointed out that management and leadership are different and suggests that both concepts embodied in the same person can lead to confusion, conflict and diminished clinical and management effectiveness (Kippist & Fitzgerald, 2009). Patrick, et al. (2011), however, argued that clinical leadership is a process embedded in the professional practice behaviours of nurses. Moreover, if nurse unit managers perceive themselves as lacking in leadership qualities it is likely to become a self-fulfilling prophecy as self-doubt can hinder performance (Clarke, 2008). Leaders

have followers, imaginative, passionate, innovative, non-conforming, risk takers and work from the perspective of their vision and values (Robbins, 2002). The unit managers in this study clearly viewed leadership and management as different with an emphasis on management rather than leadership.

Managers can implement empowerment strategies by creating organisational structures that empower nurses to deliver optimal care. An example of this empowerment was highlighted by Laschinger and Wong (2006) who found that by promoting autonomy, participative decision making and displaying confidence in nurses promoted a sense of fit between nurses' professional values concerning the quality and the organisation's goals. Stanley (2011) suggests that if health professionals focus on the profession's core values they would be drawn towards focusing on improving patient outcomes. Not surprisingly this type of empowerment has been linked to nurse retention. Laschinger, and Wong (2006), however, cautioned that in the current climate of staff shortages it is difficult for managers to engage in empowering leadership behaviour. Significant barriers to clinical leadership are organisational structures that preclude nurses from clinical decision making, the national shortage of nurses, and fiscal constraints (Davidson, et al., 2006). Whilst the literature presents the importance of clinical leadership this role has not been developed or adopted in the Saudi Arabian context and, therefore, may explain the reluctance of the unit managers to accept a leadership role.

It suggested that consideration be given to adopting clinical leadership in the Saudi context as it is widely recognised that clinical leadership is an important factor in the provision of quality patient care (Cook, 2001; Wong & Cummings, 2007). Furthermore, clinical leadership cannot be delegated (Botwinick, et al., 2006). It is also seen as a cost effective way to improve patient outcomes by promoting patient safety, professional accountability and clinical excellence (Cook, 2001). Clinical leadership is as much about having the correct attitude and behaviour as it is about gaining new skills and knowledge (Cook, 2001). There is evidence of significant associations between positive leadership behaviours, styles or practices and increased patient satisfaction and reduced adverse events (Wong, & Cummings, 2007).

The role of formal clinical nurse leaders who focus on quality care and patient safety has been promoted in recent years (Ågård, & Lomborg, 2010). The designated unit manager, however, cannot possibly have the minute-to-minute knowledge of individual aspects of the patient. Transformational leaders commonly found in positions recognised as titled leadership or management have hierarchical or titled positions or fulfill a leadership role as an expectation of their job description. Any nurse, however, can be a leader by taking responsibility for their leadership action envisaging change and making it happen (Clark, 2008). Clinical leadership is not simply granted to individuals and is not about responding passively to events, rather it is about creating possibilities. In addition clinical leaders can be found in non-hierarchical positions at all levels and in a range of different areas they do not necessarily have to be in a management position (Clarke, 2008; Cook, 2001; Stanley, 2011). These perspectives are pertinent to this study and for future research questions. What constraints, for example, restrict nurses in the ICU from this leadership ideal?

It has been argued that there is no definitive definition of clinical leadership since authors have viewed the concept from their own professional perspective (Stanley, 2011). There are, however, similarities of characteristics or attributes of a clinical leader such as 'clinical competence, clinical knowledge, effective communication skills, decision-makers, empowered motivators and role models (Stanley, 2011). Clinical leaders are experts in their field and nurses are more inclined to seek out or follow them as they display or hold values and beliefs that they themselves hold (Stanley, 2011). This notion has led to a theory of congruent leadership which has been defined as 'a match between the leader's values and their actions' (Stanley, 2011, p. 56). In addition to the characteristics of a clinical leader, congruent leaders are inspirational and build relationships. They commonly have no formal, structured or hierarchical position in an organisation and even if they do, it is not their position that motivates the follower, but their values and beliefs as evident in their actions. Weir-Hughes (2011) contend that it is a myth that only established nurses need leadership skills; students and newly qualified nurses also need them too.

Appropriate to this study is knowledge of the clinical leadership that led to the development and implementation of a clinical governance framework in Western Australia. Clinical governance was seen as recognising and further developing clinical leadership skills to enable comprehensive evidence-based clinical practice to occur for every patient every time (Jones, 2008).

Burden of responsibility

This study revealed that coupled with the bureaucratic style of management, displayed by the unit managers, was the delegation of responsibility for patient care. Whilst all professional nurses are responsible for the patient care they provide, the ICU nurse differs in that they are constantly at the patient's bedside performing tasks and routines and continually monitoring the patient. As one nurse stated once the handover from the previous nurse is completed at the bedside they: assess the patient from head to toe; check vital signs and monitors; give medication; extract blood if needed; chase the results; turn the patient; and perform diagnostics such as an Electronic Cardio Graph (ECG). This nursing routine has previously been described by Barr (1986) as perfunctory care, with frustrations and lack of autonomy inhibiting nurses' technical role. Watson (1995) calls this type of care as the 'trim of nursing'.

Each nurse is responsible for his/her patient's moment to moment well-being. Nurses in this study, however, stated that at times they were unable to complete all care requirements, which was generally, related to excessive workload. This may have led to critical incidents and errors causing internal conflict for the nurse. Andrews, Burr, and Busby (2010), suggested that nurses experience contradictions and unmet expectations related to their professional role. In Kalisch's study (2006) nurses appeared to cope with missed care by prioritising aspects of care ordered, or regularly asked by physicians, consequently other care was least likely to be completed. It is the 'other' care or core of nursing that includes the psychosocial, emotional and spiritual needs of the patient (Watson, 1985). Contradictory demands may impair judgments and clinical decision making (Cronqvist, et al., 2001).

In this study ICU responsibility for patient care was seen as onerous because of the unpredictable nature of the patient's condition. It was during these times that the burden of responsibility caused nurses to draw upon their inner resources and request help from their colleagues. Cronqvist, et al. (2001) found that nurses who had insufficient time for interacting with patients, experienced feelings of powerlessness, isolation and low self-esteem. These feelings were associated with the nurses' perceived ability to provide quality care and ensure patient safety. This finding concurred with nurses in this study who sometimes felt helpless, especially at night when the specialist consultant was not in the hospital: a feeling demonstrated in the following extract from one nurse in the study:

One night I had a patient having an intra-arterial catheter. The patient was so restless I cannot control her and I had already tied both hands both legs...struggling and so restless that she finally, in a split second, removed the intra-arterial catheter.

The burden of making decisions, in relationship to lack of resources and waiting for the physician to arrive, places nurses in an ethical dilemma (Cronqvist, et al., 2001). Nurses caring for ICU patients carries great responsibility and this places heavy demands on their cognitive resources (Hazlehurst & McMullen, 2007). Cognitive dissonance is an incongruent relationship between cognitive elements such as perception, insight and knowledge about what to do, and what is actually done (Festinger, 1957). Whatever takes place the nurse feels responsible for the outcome (Cronqvist, et al., 2001).

In a study conducted by Andrews, Burr, and Busby (2010) participants described a negative hospital environment in dealing with physicians which they believed compromised their ability to provide quality patient care and hindered team efforts. The nurses in the study manifested a strong sense of personal responsibility for those under their care as well as the actions of physicians together with meeting the expectations of the administration (Andrews, et al., 2010). These competing interests of nurses' work, has been described as 'in-between' (Varcoe et al., 2004). That is, in-between the nurses' own values and values of others and in-between their own identities and the values of the organisation. Nurses balance the needs of all parties involved being mindful that the patient is their primary concern (Ågård &

Lomborg, 2010). Andrews, Burr, and Busby (2010) found that nurses' perceived inability to advocate for the patients, appeared to be associated with loss of self-esteem and feelings of powerlessness. Stress levels were exacerbated when the nurses' responsibilities at work were coupled with their personal life. At this level of stress the nurses began to question their abilities; it also affected their choice of self-care activities (Andrews, et al., 2010). This experience of stress for nurses in the ICU from their inability to meet all patients' needs and their own is consistent with the findings of this research.

Educational preparation

Society expects that registered nurses are trained to take a holistic approach in the care of patients. This approach includes the physical, spiritual and psychological components of health (Nolan & Hazelton, 1995). Depending on the country of origin, pre-registration courses are either conducted in a university, or a technical college. The educational courses for Saudi nursing students generally have a minimum focus on critical care which includes coronary care, but not necessarily experience in an ICU. Thus, it could be argued that this curriculum structure did not adequately prepare new graduates for beginning practice in ICU.

In this study most Saudi nurses posted to work in ICU had no prior education or experience. Some had previously worked on a ward, but this experience was inadequate for ICU work. In contrast, there were nurses from overseas countries who had extensive experience in ICU nursing. Wiggins and Westwood (2000) recommend that ICU nursing demands that patients receive the same standards of quality care as those in the ward areas. The skills and knowledge required, however, is over and above that of the ward nurses. Derham (2007) identified that ward nurse's lack insight into clinical signs of deterioration and reluctance to seek the appropriate advice. This argument suggests that nurses in this study who did not have prior experience in ICU nursing lacked the confidence and clinical skills to take on patient responsibility.

Most nurses in this study a lack of educational preparation added to the difficulty of nursing in an already complex practice environment. If a nurse was not provided with specific knowledge and skills, they learnt by trial and error with care depending on the nurses doing their 'best'. This issue was summed up by one of the participants who said 'we learn much for ourselves [to] give the best care we can'

Orientation in the ICU was either brief or non-existent this deficit together with a demanding workload, increased the difficulty of adjusting to practice in the unit. Benner and Wrubel (1989) contend that the advanced beginner nurse feels stressed, because there is much to learn before grasping the whole picture. Decrease in confidence leads to feelings of stress with the consequence that the nurse works harder.

Once again the issue of an orientation and the decrease in confidence was raised with the unit manager, but to no avail. This feeling was summed up by one nurse who said: 'I am at a loss. I said what am I going to do? Why so soon? I think I am not yet capable of handling it'. In contrast, nurses fortunate enough to participate in an orientation benefitted from the experience and were not so hesitant in managing patient care. Cronqvist, et al. (2001) points out that insufficient training could mean mistakes and erroneous decisions are made, together with the potential for incorrect setting of priorities. Hart and Davis (2011) in a study on skill mix, suggested that staff familiar with hospital policies and procedures may potentially increase the quality of care throughout the patients stay. Such familiarisation usually occurs in an orientation program.

Nurses new to the unit found it difficult to acclimatize to the setting as there was no consistency with orientation and no formal mentoring program. Some senior nurses took the new nurse under their wing providing some guidance, but this added to the burden of responsibility and increased their workload. Cronqvist, et al. (2001) concurred with this finding adding that senior nurses felt frustrated when new nurses did not have adequate time for orientation as it increased their workload. Additionally, clinical supervision was on an *ad hoc* basis which contravenes the principles of adult learning. In this situation Hawkins and Shohet (2006) suggests that clinical supervision has three functions: addressing issues of quality control

relating to practice; restorative function (supporting professionals working constantly with stress or distress); and an educational function of developing skills.

The nurses in this study emphasised the need for ongoing education as important for quality care. Senior managers also concurred, but despite this expression educational resources were inadequate, or not available. There were few opportunities for self-education since there were no nursing journals and access to books was limited. Of concern was the lack of computers for researching best practice initiatives in patient care. An essential component of clinical governance is clinical effectiveness, which is achieved through evidence-based practice (Cranston, 2002). West, Borrill, Dawson, et al. (2002) suggest that organisations that emphasise training and team working also have better patient outcomes.

There is a high level of consensus from nurse managers and nurses in critical care concerning the essential clinical competencies for beginning critical care nurses (Porte-Gendron, Simpson, Carlson, & Van de Kamp, 1997). In postgraduate education, critical care nurses generally learn to manage patients in terms of advanced physiology, assessment and interventional decision-making. They are also expected to use reflective and analytical skills (Giro, 2000). A patient-centred, proactive, vigilant, critical care nurse is more likely to result in decreased risk to patients, and a more timely progression to their recovery (Ball & McElligot, 2003). With this specialist knowledge and skills nurses are prepared to provide direct complex care to critically ill patients (Marshall, Currey, Aitken, & Elliott, 2007). Being responsible and accountable gives nurses a sort of moral authority to act decisively and demand help from others. As found in this study, however, a lack of specific educational had major implication for the quality of patient care nurses were able provide in the ICU. Inter-related with nurses clinical knowledge and skills is the need for adequate resources to provide safe and effective care (Hazelhurst & McMullen, 2007).

Availability of resources

It was clearly evident in this study that the availability of resources was a dominant factor limiting the nurses' ability to provide quality patient care in the ICU. Decreased resources not only included educational information, but also vital

equipment. The ICU was fitted with ultra-modern equipment, such as ventilators, monitors and electric beds which were both valued by nurses and a source of pride for the managers. The Hospital Director stated that the importance of effective equipment was that it could 'work' for the 'end user' adding that:

In changing all the equipment we bought the latest new ones, then we had to make policies for maintenance. We issued these new things [equipment] but who is going to be in charge of these equipment. It was a big question so we made this policy and assigned a person in charge. If you are the end user [nurses and doctors] you have to have medical supplies that work.

Clearly there was a lack of communication between end users and upper management concerning new equipment, since nurses were not included in any of the discussions surrounding implementation. Less apparent to the managers was the availability of smaller portable equipment for recurrent use such as ECG machines and glucometers. A shortage of this equipment often posed difficulties and resulted in patient care being compromised. Not only was there a limited availability of portable equipment, but on occasions the equipment was out of order. There was a permanent shortage of glucometers, with no provision being made to increase the supply. As a consequence, only two glucometers were supplied for use in the 36 bed unit. As one nurse stated she had to: 'shout up to bed 31 to call for the glucometer wasting time and means the RBS is not strictly taken on time'. Given the layout of the ICU (see Appendix A) a nurse could be some distance from the person with the glucometer.

Additionally, there was only one portable ECG machine, which was frequently out of order. Nurses were frustrated for the time it took to contact the technician and to bring another machine to ICU, especially after hours, and to locate a replacement from another department, cost valuable time not given to patient care. In some instances it took two to three days to be repaired. Kalisch (2006) study concurred with this finding in that manpower was not being maximised and valuable nursing time and patient care was wasted obtaining supplies and equipment. Nurses faced an ethical dilemma having to make do with unreliable equipment, or if unable to find a replacement, not taking cardiac tracing as required. They were uneasy with the compromises as one nurse said: 'It's frustrating and is not right'.

Every day nurses dealt with problems relating to non-functioning of equipment and chronic shortages of disposable supplies. Requisitions for these supplies were frequently not met. This undersupply presented recurrent difficulties for nursing care and frequently jeopardized both patient and nurse's well-being. Reusing disposable materials and sharing items such as sterile gloves, splitting pieces of single use items in order to make the stock go further, and maintain a semblance of care, posed constant stress for the nurses trying to provide patient care. Of particular significance was the reuse of a 50ml disposable syringe. There was agreement from the nurses that: 'If you notice, especially the 50 cc single use disposable syringes, we are re-using it. We request 100, [but] they only give the unit 50 or 75'. This resource deficiency had major implications for the safety of care. Despite knowing the risk of cross-infection nurses had no alternative, but to reuse disposable items. Such a finding indicates an extraordinary barrier to quality care for nurses. Furthermore, although the nurses repeatedly raised their concerns and the ethics of care, their representations to management were often to no avail. One nurse expressed her despair to the manager in the following terms:

We...don't have enough stock of the suction catheters. We don't have enough stock for the sterile gloves. Your kidding me this is the patients' life. Imagine this patient is your relative. Will you just let them just [suction] again and again for the whole shift with one catheter.

An ICU nurse's work is conducted in a shared space and is constrained by sharing resources (Hazelhurst & McMullen, 2007). These constraints can often force nurses into making difficult decisions (Cronqvist, et al., 2001). Davidson, Elliot, and Daly (2006) pointed out that nurses who compromise the quality of patient care for budgetary reasons experience conflict. Unsurprisingly, Parahoo and Barr (1994) found that limited resources were related to job satisfaction.

Whilst the nurses and the managers in this study valued the new technology, it was accompanied with a higher expectation from nurses who were required to make extensive recordings of the patient's vital signs. Additionally, with an increase in technology there was also a concomitant increase in the more acutely ill, or injured patients with life-threatening conditions. Moreover, there was an expectation

that the nurses would clean the machines despite cleaning equipment being a questionable nursing role (Andrews, et al., 2010). These issues of more machines increased the nurses' workload. Nurses in this study felt that because of the workload, the cleaning took less of a priority. As one nurse stated we are: 'so busy [we] often do not have the time or a chance to wipe...or clean the machines'. Clearly the availability of appropriate resources for nursing in ICU impacted greatly on the nurses' ability to provide quality care.

Evidence-based practice approach to practice, mandates a patient-centred continuous quality improvement focus (Davidson, et al., 2006). Improving staffing ratios alone, however, while important may not fully solve the problem of missed nursing care. Other factors include inadequacy of support services, lack of adequate support for inexperienced nurses, patient assignment practices and lack of supplies and equipment (Kalisch, 2006). In addition nurses need time with the patient to 'get to know them. Studies have highlighted the value of connecting with patients not just physically, but psychologically (Benner & Wrubel, 1989). The spatiotemporal organisation of nursing work demands sustained proximity, but results in nurses' experiencing the burden of moral responsibility (Peter & Liaschenko, 2004). The way to lessen this burden is the provision of adequate resources and providing temporary escapes through frequent breaks and quiet places away from the patient (Peter, & Liaschenko, 2004).

Proximity

Professional nursing practice is based on being able to get to know the patient and the development of a working partnership that promotes continuity of care (Stewart, Stansfield, & Tapp, 2004). Peter and Liaschenko (2004) suggested that the physical nearness or proximity inherent in the nurse-patient relationship has been central to the discipline as definitive of the nature of nursing and its moral ideals. They further suggest that nurses define themselves in terms of their relationship to patients, which is marked by close proximity.

In this study proximity was defined as the close professional relationship between the nurse and the patient and was exemplified by their emotional sensitivity and the relationship they had with patients. Nurses frequently expressed this proximity as 'all' encompassing by stating: that they were aware of every breath, eye movement and minute changes in the patient's responses. As one nurse stated: 'We are in front of the patients all the time, we know how they breathe; we know their level of consciousness'. We know everything that the patient needs'. Nurses described their clinical role and interaction with patients as intensive compared with others in the health team who had minimal patient involvement. Kralik, Kosh and Wooton (1997) found that from the patient's perspective the engagement between the nurse and themselves was a significant determinant of the quality of nursing care received. Likewise, nurses in this study also felt close to the patient despite their condition, which could vary from lethargy to deep states of unconsciousness.

Vouzavali, Papathanassoglou, Karanikola, Koutroubas, Patiraki and Papadatou, (2011) reconciled that critical care nurses experience intense relationships with their patients. This relationship develops via the constant contact with the patient's, body especially touch, rather than the conventional means of interaction. This use of self, therapeutically, is nurses' way of providing holistic care. Nightingale believed that one could become an instrument of healing. To her it was unthinkable that a person's spiritual life was divorced from the physical (Dossey, 2000): that is, nurses should perceive patients as whole bodies not merely an organism. This knowledge is unique to nurses as it requires sensitivity to the complexities and idiosyncrasies of the patient over time. This proximity allows nurses to make comparisons and thus, interpret responses (Stein-Parbury, & Liaschenko, 2007).

In ICU, nurses deprived of the conventional means of communication generally do not drift into ambiguity. Rather they perceive their relationship with patients as symbiotic: interacting and affecting each other reciprocally and mutually dependent on each other (Vouzavali, et al., 2011). Shared time with patients provides forceful experiences, implicit encounters and strong feelings impenetrable by others. Knowing the patients' needs was central to the nurses' perspective on the quality care. Nurses in this study interacted physically not only by touch, but verbally with

words of encouragement and preparation for interventions. Stein-Parbury, and Liaschenko (2007) argued that the genesis for devaluing of nurses 'knowing the patient' has been seen as related to historical hierarchies of knowledge, gendered work and protocols of behaviour between nurses and physicians. Walker (1998) points out that from the feminist perspective the chronic lack of recognition of what nurse contribute to patient care, risks damage to their identities.

Nurses in the study linked the interactive aspect of their caring role, to continuity and the notion of holistic care which was a source of immense personal satisfaction. As one nurse stated:

It satisfied me when I cared for a critical case and everybody's expectation of me, the family and the doctors ... to deal with it. Gradually my patient is getting okay. [He] back to consciousness and he says thank you for everything ... I don't want more.

Holistic care is the cornerstone of the relationship between nurses and patients (McVicar, 2003). Many of the nurses in the study expressed their feelings of satisfaction and fulfillment as a nurse. This relationship was a major reward for nurses, since they felt valued in doing their best for the patient. Watson (1985) points out that, the caring process is underscored by a humanistic-altruistic value system which is the satisfaction of receiving through giving. Beeby (2000) concurs, stating that feeling good enhances caring, but adding that frustration reduces the emotional aspect. A study by Allix and Irurita (2004) highlights how a caring attitude and actions by nurses is valued by patients in a technological practice environment. In this study, nurses felt rewarded and satisfied when witnessing the improvement of a patient's condition and hearing words of appreciation from them. In the following extract a nurse summed up her feelings when a patient recovered. The feeling of satisfaction that nurses in the study described is summed up in the following extract:

...after sometimes you will see him conscious, talking, thanking you. Really you will forget whatever tiredness (ah)...and you will be satisfied...I mean you will be satisfied that you did something to save others' life. This is something we cannot describe (ah) it's my pleasure. In that way I reach my aim.

Nurses often choose the profession to make a difference in the lives of others. They are known for the personal touch: the essence of humane healing and compassionate care that results from the connection with patients and their families. It involves listening to their fears and whispering encouraging words. At times, however, nurses can feel afraid, insignificant, angry, frustrated apathetic, disengaged and un-energised (Heath, 2005).

Proximity to patients is problematic because it involves contradictory responses: to help or to flee. Thus, it can contribute to moral distress and moral ambiguity (Bauman, 1993). From this perspective proximity is paradoxical in that whilst it propels nurses to act, it can also propel them to ignore or abandon (Bauman, 1993). Benner and Wrubel (1989) argued that some nurses can become an omnipotent rescuer. In Cronqvist, et al. (2001) study it was suggested, that some nurses who distance themselves from patients might be overwhelmed by fear, anger, anxiety and perhaps being emotionally worn out. This finding led the authors to suggest that this distancing may have been a coping mechanism.

An alternative reason for distancing and escaping responsibility in the state of proximity, may be that nurses do not have adequate means, material, social, intellectual, to make a difference (Peter, & Liaschenko, 2004). Young less skilled nurses, such as graduates without ICU experience, may experience moral distress and are prompted to flee from proximity. Jameton (1984) describes moral distress as when one knows the right thing to do, but intuitional constraints make it nearly impossible to pursue the right course of action.

Various nurse theorists have described nursing and the therapeutic use of self (Chin & Kramer, 2008; Parse, 1981; Watson, 1999), but there is a gap in the literature regarding the quality and characteristics of this relationship (Vouzavali, et al., 2011). One concept explored by Galvin and Todres (2009), however, is the notion of open-heartedness in relationship to the centrality of caring. This concept was grounded in the existential dimensions of being human, informed by the life-world theory and the seminal philosophers of Heidegger, Levinas and Merleau-Ponty. Open-heartedness they argued has three dimensions: the infinity of otherness; embodiment; and practical responsiveness. The dimensions were seen as interrelated

creating a complex space in which nursing takes place. This space can be both deeply existential and practical since it embodies both a connectedness with humanity and embraces the value of the objectified gaze and technology. Galvin and Todres (2009) further suggested that nursing open-heartedness may be important as the humanising face of procedural, instrumental or technical knowledge. Within this understanding nursing open-heartedness is the meaningful human context within which technical knowledge can be integrated and applied.

In an early study by Bush and Barr (1997) nurses in ICU began the process of caring with feelings of sensitivity, empathy and concern, but as Galvin, (2010) suggests, nursing care is in danger of being commodified within an increasingly instrumental audit culture. This is an important feature of nursing in a highly technological area such as the ICU. Nursing is about the central importance of the patient and responding to their needs in all the rich ways that humans require (Galvin, 2010). Patient centeredness, however, is difficult amongst the technology of the ICU.

Our world as humans, of past and present experiences of natural light, fresh air, sleep, comfort etc., are personal experiences that colour our world (Galvin, 2010). Much literature has described how nurses manipulate the environment to make it more human (Almerud, Alapack, Fridlund, & Ekebergh, 2007; Hofhuis et al., 2008). Studies have also identified that patients experience a sense of security and safety from nurses and loved ones, but also have conflicting feelings of anxiety and disorientation whilst being artificially ventilated. Nurses in this study used touch and verbal encouragements and soothing words which were part of the connectedness with patients and the caring process. The nurses tried to balance the 'hand' of technology with the 'head' (policies and protocols) and the 'heart' the ethical human dimension (Galvin, 2010). Without this balance the patient becomes a body not a person that conflicts with a nurse's professional values causing an ethical dilemma (Galvin, 2010).

Malone (2003) considered the spatial dynamics of the nurse-patient relationship remarking that nursing care depends on the proximity of patients. Of concern is the delimiting of proximity and its relevance to nursing care by authorities

efforts to economise. In getting to know the patient listening to their story and, in the case of the ICU, listening to the family's biography of their relative, provides evidence for ethical decision making. To practice patient advocacy the nurses have to truly know the patient. Thus, as Malone (2003) suggests, proximity can be nested in the physical, the narrative and the moral. The traditional physical proximity of patients during bathing, feeding and wound care, has long been regarded as encompassing therapeutic dialogue. With the shortage of staff, however, routines are hurried and relationships compromised.

The Nightingale model taught that nurses must distance themselves from the emotional needs of the patients (Williams, 2001). It is difficult, however, for ICU nurses not to become involved when they see the emotional crisis suffered by the family Cronqvist, et al, (2001). In this study nurses' emotional involvement was most visible when patients died as they experienced grieving and self-reflection on his or her professional capabilities. Often the extreme state of patients' disfigurements and their deaths was traumatic and had a profound effect on the nurses. One nurse stated that:

I cannot forget...emotional impact of the relationship so many patients died. I mean, after I handled [cared for] them, not died because of me. They were giving me last-stage patients and the patients died. [I asked myself] Why are you giving a dying patient to look after?...all were supporting me. They said this is not because of you. [they said] in ICU so many patients will come and die here. I don't like this because I feel bad but they [staff] are supporting me.

This nurse's experience of death and dying is not uncommon. Graham, Andrews, and Clark (2005) described the feelings of mutual suffering as a universal lived experience and a chosen way of being with yourself and others. It is at times the focus of attention and at other times, a taken for granted unpredictable process. As Cronqvist, et al. (2001) suggests given the expectation of nurses to do many tasks at the same time, including dealing with end of life decisions, it is not surprising that stress can arise. Part of this stress could be as Graham, et al. (2005) suggested the paradox of revealing, yet concealing the self when 'being with' and 'caring for' a dying patients. Nurses are both enabled and limited by this experience; connecting yet separating simultaneously creating a new way of becoming. Foxall, Zimmerman,

Standley, and Bene Captain (1990) found that nurses working in the ICU, ranked coping with 'death and dying', more highly as a source of distress than did those in medical-surgical care. Nurses, especially those new to the ICU, could benefit from mentoring and clinical leadership to cope with the complexities of feelings that arise when caring for dying patients. Nurses in Graham, et al. (2005) study, felt that they underwent a number of psych-spiritual changes including alterations in their perceptions of life and death. The possibility of death made the relationships more profound and authentic. This experience has been described as transformational care.

Proximity and the strong relationship with the patient, was the final theme which emerged from the **direct factors** that influenced the quality of care provided by nurses in the ICU. These factors were in turn influenced by **intermediate factors** and were generally associated with middle managers. **Indirect factors** related to elements external to the ICU and were generally associated with the influences of upper management on the quality of care provided.

Intermediate factors

The previous discussion focused on those factors that had a direct influence on the nurses' ability to provide quality care. Consistent with the model depicted in chapter 5, there were a myriad of factors that were seen as influencing the quality of patient care in the ICU. Intermediate factors were those that encapsulated regular, but intermittent elements that impacted on nursing. They operated between the internal and external environment of the ICU and included *relationships with superiors and policies and protocols*. A distinguishing feature was that these factors were not seen by the nurses as constant, and were associated with up-line managers and administrative personnel that connected nurses with the environment outside the ICU.

Administrative personnel were responsible for staffing and supply of resources to the ICU, and were also accountable to their up-line managers. These people were a mixture of senior personnel for example the Head Nurse, nurse

supervisors and medical staff including the ICU Director. Some personnel had multiple roles that not only related to the ICU, but also to other departments and authorities external to the hospital. This finding was encapsulated in the comment made by the ICU Director who stated that:

I am head of the auditing committee, for the filing system and also a member of the Quality Assurance Committee...I am also involved deeply with the administration, pushing toward health care quality control and ensuring everything is to be according to the standards of our health care system...I have authority to implement it at least within the ICU.

This statement can be interpreted from complexity theory which suggests that hospitals are composed of multiple agents who play multiple roles in a variety of contexts. It is the dynamic non-linear environment punctuated with occasional unpredictable events that leads to order (Clancy, et al., 2008). In a complex adaptive system (CAS) there are fuzzy boundaries as membership can change, and agents can simultaneously be members of several systems. Moreover, because a CAS is embedded in other CASs, all evolving and interacting, a single entity cannot be understood without considering the others (Plsek & Greenhalgh, 2001).

Relationships with superiors

Power of interpersonal relationships can be defined by the extent a leader relates to subordinates. Interpersonal power refers to the leader's ability to influence others' behaviour simply because of the relationship he/she has with subordinates (Brower, Schoorman, & Tan, 2000). Similar to other workplaces the ICU represented a complex social world in which friendships, hostilities, rank, influence and customs strongly impacted on human interactions (Hazelhurst & McMullen, 2007). Management styles are dependent on culture, context and the personality. A manager as bureaucrat, for example, is a guardian of rules, roles and relationships and relies heavily on working to the book (Legge, Stanton, & Smyth, 2006).

Consistent with this notion of relationships in a working environment, was the finding from this study which suggested that favourable or adverse outcomes of patient care depended on the strength and weaknesses of the relationships with

superiors. These people were doctors, nurse supervisors, nurse managers and infection control nurses. Communication between these people affected care decisions and nursing interventions. Where these relationships were positive, nurses felt respected and valued. A collaborative relationship with medical staff, for example, enhanced the nurses' morale and improved their decision making in patient care as they felt more confident in performing nursing interventions with a degree of autonomy.

Collaborative relationships, however, were frequently overshadowed by a disregard for nurses' in general. The attitudes of doctors, at times, were disrespectful with nurses often being verbally abused particularly by physicians. Instances of bullying and blame were often observed in the ICU. Consequently, incidents were unreported and unsatisfactory practices were perpetuated. Communication breakdowns led to the nurses feeling dissatisfied and undervalued.

Bullying was tolerated by some nurses, when it took place in front of an unconscious patient, but when it took place in front of a conscious patient the nurses felt humiliated and undermined. This behaviour led to a decrease in self-confidence. This finding was consistent with Andrews, et al. (2010), who found that the quality of patient care was compromised when nurses felt that their work environment neither empowered them to advocate for their patients, nor enhanced their self-concept. Acceptance of bullying in nursing is not uncommon as it is seen as part of nursing and is associated with physicians being viewed as superior with the right to order (Farmer, 1993). Studies have found that acceptance of this behaviour, however, decreases morale, productivity and increases errors at work (Sofield & Salmond, 2003).

Several studies have investigated the worrying trend of physician's disruptive behaviour (Page, 2004; Pfifferling, 1999; Piper, 2003; Rosenstein & O'Daniel, 2005; Saxton, Hines, & Enriquez, 2009; Sofield & Salmond, 2003; Wilhelm & Lapsley, 2000). Verbal abuse is only one factor that constitutes disruptive behaviour. Others include sexual harassment, racial/ethnic slurs and failure to respond to phone calls, or pages (Wilhelm & Lapsley, 2000). Other authors have also included any interpersonal interaction that might negatively impact on patient care and the

organisation's mission (Piper, 2003). In light of this trend and the move towards reducing adverse events the Joint Commission (US) has mandated that all accredited hospitals define disruptive behaviour in a written code and implement processes for its management (Saxton, et al., 2009).

A worrying issue is that some nurses may not wish to deal with the situation of disruptive behaviour and importantly line managers are unhelpful in dealing with bullying (McMillan, 1995). In Andrews, et al. (2010) study, nurses perceived hospital and nursing administrators as ignoring their input and a failure to advocate for them in effecting changes to create a positive working environment. Moreover, the participants in the study felt there was a lack of respect for their professional contribution when decisions were made about patient care.

Nurses in this study experienced blame for the problems they reported and feared the consequences. This was not a surprising finding since on occasions punitive treatment was administered when blame was apportioned to the nurses for reporting an incident. Penalties were imposed on nurses for a 'mistake' regardless of the circumstances. There were cases where a nurse's salary was cut for seven days because she reported an incident to a superior. At other times when nurses did report incidents they were ignored and undermined. Plsek and Wilson (2001) suggested that rather than chastising those who fail to make the grade, it would be more advantageous to study how variations in structure and process contribute to outcomes. There is a general agreement that analysis of a critical incident should focus more on the system and organisational factors than individuals (Blandford & Smyth, 2006; Wilkinson, Rushmer, & Davies, 2004). From the perspective of CAS what is manifest at one level cannot be understood at another level. Thus, when considering issues of error it is necessary to consider issues at a systems level rather than the failure of the individual (Edmondson, 1996).

Nurses in this study were discouraged from reporting incidents, which contributed to a culture of 'cover-up'. Furthermore, the attitude of supervisors influenced whether incidents were reported or acted upon. The under-reported incidents might have hidden minor accidents or errors that could have been problem-solved and prevented from being repeated. The inattention and complacency of

superiors resulted in a *status quo*. Consistent with this finding was Tucker and Edmondson (2003), study which suggested that hospitals are not learning from errors and problems that front line workers encounter. This finding was also consistent with Bion and Heffner (2004) study that pointed to the fear of punitive actions in the hospital culture which contributed to reluctance of both physicians and nurses to report medication errors and other critical incidences. Similarly, public inquiries around the world have uncovered cultures of blame and shame (Walshe & Shortell, 2004).

It has been argued that early detection of poor performance needs to be identified and learnt from, rather than apportioning blame (Denton, 1998; Wilkinson, et al., 2004). There also needs to be a change in the organisational culture from blame to one of curiosity and learning, trust and systems thinking, which is an executive responsibility (Blandford & Smyth, 2006; Leape & Berwick, 2000; Reason, 2000). Learning from incidences and adverse events is clearly a characteristic of organisational learning and has been declared as an imperative if quality care is to be achieved. The principles of shared governance can be usefully applied whereby staff collectively review and learn from each other in terms of patient safety and quality care (Elder, et al., 2008; Holden, 2005). Nurses in this study complained that they have continually been admonished for errors, but rarely received constructive feedback on their management of patient care.

Barriers to learning, however, have been reported as being associated with the low status of nursing, their reliance on others for supplies and information, the unpredictability of the workload and time pressures (Tucker & Edmondson, 2003). In terms of positive patient outcomes, management practices that encourage interactive learning and innovation facilitated by developing relationships and cooperation amongst staff, lead to better outcomes (Anderson, et al., 2003; Holden, 2005). In a CAS, rapid decentralised control provides more rapid and effective communication where people listen to each other's insights (Clancy, et al., 2008). In this environment managers are not expected to know what is going on and tell others what to do, rather they create a supportive learning environment (McDaniel Jr, 1997).

Successful quality improvement programs require interdisciplinary teamwork that is incremental and continuous (Curtis, et al., 2006). In an interdisciplinary team there are clear individual roles and learning systems that enable shared clinical governance (Denton, 1998; Department of Health-Emergency Care Team, 2005). In a CAS feedback and dialogue are the critical elements as they provide for self-organisation, adaptation and learning (Cilliers, 2005; Richardson, 2008). Similarly, clinical governance advocates for multidisciplinary collaboration.

Su, Boore, Jenkins, Liu, and Yang, (2009) from a cultural perspective found that cultural background may play an important role in influencing nurses' work atmosphere and their ways of being seen. In Taiwan, society viewed nurses as handmaidens to physicians. This perception was also consistent with physicians who expected them not to resist orders. The Confusion principle of hierarchy influenced the nurse-doctor relationship in that they had power over nurses rather than working as a team. Nurses were expected to know their place and obey their supervisors, which placed them in a conflict situation creating stress and low self-esteem. Other physicians, however, expected nurses to be as smart as the resident doctors. These expectations and mixed messages created stress and psychological demands on the nurses.

Taiwanese nurse's role was seen as an extension of the subservient female role with the virtues and characteristics of traditional women, they did not understand a nurses role, likening it to the Nightingale model of self-sacrifice. This finding is supported by other studies in Hong Kong and China. Traditional Chinese culture expects women to recognise their social position and gives them the responsibility to act out their natural roles (Xiao, 2005). Pang et al. (2004), suggested that when the Nightingale model of nursing was introduced to the Far East, it merged with the existing culture and values placed on women. This finding could be analogous to Saudi Arabia, where doctors are seen as having a higher social order than nurses who are mostly female. This concept is strongly at odds with the professional nurses in the 21st century. Although nursing has been socialised into a militaristic biomedical model, in recent times it has forged ahead in rethinking and reframing a model of nursing (Anderson & McDaniel Jr, 2000).

The global shortage of nurses, nurse job dissatisfaction and reports of the uneven quality of hospital care are not uniquely an American phenomenon. Nurses in United States, Canada, England, Scotland, and Germany; countries with distinctly different health care systems report similar shortcomings in quality care. Core problems in work design and workforce management, which are amenable to managerial intervention, were seen as threatening the provision of care. A report on these five countries revealed that fewer than half the respondents reported that management was responsive to their concerns. Aiken, et al. (2000) proposed that resolving these issues, was essential in preserving patient safety and providing consistent high quality care.

There is agreement in the literature that organisational culture has an impact on activities and achievement of desired outcomes (Maddern, Courtney, Montgomery, & Nash, 2006). Culture affects the way people perceive their world and their relationship to others including the impact on managerial behaviour (Lewis & Boldy, 2006). Findings from international public inquiries into adverse effects on the quality of health care included unclear lines of accountability for patient care, poor systems for staff training and credentialing, and in some cases none at all (Walshe & Shortell, 2004). Empirical data and management practices, however, have generally emanated from the Western world. Thus, it is a matter of conjecture as to whether these can be applied or modified to fit the culture and context of other countries, or indeed whether they should even be considered. Given that health care systems throughout the world are influenced by western models of health care, it is likely that these countries would adapt the model to their cultural circumstances.

It could be argued that the recent events in the enfranchisement of women in Saudi Arabia will have a profound effect on nurses to provide quality care. From a complexity theory perspective, a little change can have a large dynamic effect owing to the non-linearity property of a CAS (Cilliers, 2005). In a CAS participation in decision making and the creation of a learning organisation is necessary for adaptation to future unpredictable events (Anderson & McDaniel Jr, 2000). The learning organisation sees quality as affecting everybody within the organisation and the organisation itself has an ethos of quality and sharing for improvement. Such an

organisation endorses the belief that technical skills are not enough and that learning needs to be guided by processes and protocols (Wilkinson, et al., 2004).

Policies and protocols

A second theme uncovered in the category of intermediate factors that influenced the nurses' ability to provide quality care was *policies and protocols*. This study found inconsistencies between written and unwritten policies and protocols, contributed to the nurses' role uncertainty and influenced their performance of quality care. Policy and protocols for ICU were mainly developed by the ICU Director and the Head Nurse, and were intended to provide guidelines for dealing with routine clinical and procedural responsibilities, including the process for reporting incidences, for example, despite policies to the contrary, nurses were expected to routinely perform some procedures which could be considered outside the scope of practice of a novice ICU nurse. Another unwritten 'rule' was that only doctors spoke with patient relatives. At times this caused confusion and ethical dilemmas when relatives inquired about their loved one's condition. Plsek and Greenhalgh (2001) suggest that in a complex adaptive system, agents respond to their environment by using internalised rule sets that drive action. These unwritten rules, however, were difficult for nurses new to the ICU to learn.

Adherence in terms of outcomes to policies and protocols in the hospital setting is generally a priority as it provides a sense of predictability and a guide for action. It is particularly important, however, to carefully consider how they affect the nurses' responsibilities and how they relate to authority in procuring resources and equipment (Hazlehurst & McMullen, 2007). In a highly regulated organisation such as a hospital, some management functions will remain with a central bureaucracy in order to ensure adherence to mandate practices and procedures (Leggat, Harris, & Legge, 2006). The Hospital Director stated that if problems were 'due to wrong policy I can change...if it's due to man's behaviour...maybe we put the wrong man in the wrong position, if it's due to the equipment itself we can change'.

Some specifications when the issues are simple and relatively stable, for example ICU incident reports, methods such as consensus, standardization, or delegation (Stacey, 2000). In this study an incident report noted that there were too many visitors in the ICU, and that nurses and doctors were unable to carry out their functions. The Hospital Director responded by implementing a new policy reducing visiting time from one hour per visitor to 5 minutes. This action was an example of an issue where there was a high degree of certainty about the outcome, and a high degree of agreement among those who took the action. In such a case it is appropriate to think in machine terms to reduce variation (Plsek & Wilson, 2001). Although these problems could have been considered outside the zone of complexity, few in health care have such a high degree certainty (Plsek & Greenhalgh, 2001). Most often traditional approaches to managing result in unpredictability, since people, politics situations and random events are themselves unpredictable (McDaniel & Driebe, 2001; Anderson, Crabtree, Steel & McDaniel, 2005).

Machine bureaucracies are complex large technical infrastructures, organised according to function (Maddern, et al., 2006). Traditional management thinking that viewed organisations as machines, believed that considering parts in isolation, specifying changes in detail, battling resistance to change, and reducing variation would lead to better performance (Plsek & Wilson, 2001). A professional bureaucracy is a variant of machine bureaucracy which aligns with the Newtonian reductionist idea of command, control, prediction and planning (McDaniel & Driebe, 2001). It is argued that a 'well oiled' machine is a reductionist perspective where understanding the whole of the system is dependent on understanding its parts. Whereas a professional bureaucracy has a large operating core complex with formal flat decentralised profile (McDaniel & Driebe, 2001).

Professionals are grouped within their own functional unit and have significant autonomy (Maddern, et al., 2006). Traditionally, health care organisations and in particular hospitals have been viewed as professional bureaucracies where key interventions performed by clinicians and managed by administrative staff (Badrack & Preston, 2001). There is scant evidence, however, that this model is successful in realising positive patient outcomes (Anderson & McDaniel, 2000). An example of this reductionist idea was TQM, or continuous

quality improvement, to improve clinical practice. In contrast, complexity thinking suggests that relationships between parts are more important than the parts themselves, that minimum specifications yield more creativity than detailed plans (Plsek & Wilson, 2001).

Studies have revealed that managers have learnt that their control over organisational patterns can be minimal and that in a CAS the pattern develops from local interaction among agents following simple rules (McDaniel & Driebe, 2001). Zimmerman (1999), points out that a chief executive officer (CEO) in a CAS does not control an agent's activities. Distributing control in times of uncertainty allows agents to operate from their own schema or local knowledge and by interacting with each other they self-organise. This leadership process combined with minimum specifications regarding safety and accountability for standards has the potential for emergent solutions. In a study conducted by Lewin & Regine (2001) management practices that facilitated self-organisation contributed to better patient outcomes. Leadership approaches included: 'direction without directives...listening to frontline people...support along the way and getting out of their way...' (Lewin & Regine, 2001, p.81).

According to Robbins and Barnwell (1989) professional bureaucracy can perform specialised tasks with the same efficiency as a machine bureaucracy, but there is a tendency for conflicts to arise. Power flows from particular skills and expertise with the structure being shaped by the requirements of the profession. It is the power relationships and the resultant political processes for exercising control that is the key feature of a professional bureaucracy (Badrack & Preston, 2001). Anderson and McDaniel (2000), point out that professional expertise and values are powerful inhibitors of innovation because they have a vested interest they create the *status quo*.

In this study the potential conflict between administrators and medicine was intimated by the Director of the ICU who stated 'stress from outside interference...not left up to medical people to make medical decisions they are coming from the administrator, and this is the whole problem in the Ministry'. Legge, et al. (2006), argue that thriving and changing in an unpredictable environment such as the hospital calls for a system that can adapt 'autonomously and coherently in response to

changing circumstances and changing strategic imperatives' (p.17). Likewise, in a CAS individuals learn and adapt overtime changing the structure of the system. It is diversity which enables adaptability, creativity and change within the organization (Clancy, 2008).

At the time of this study actions were being taken to revise and update the policy and protocol manual entitled Quality of Care, (see Appendix J) as a requirement for hospital accreditation from the Central Board for Accreditation of Health Institutions (CEBAHI). The purpose of the document was to ensure that health care services provided by the hospital met professional practice standards and complied with ethical conduct as set by the regional hospital. A draft was prepared for approval by the Quality Assurance Committee just prior to the time of field work for this study. It took a further eight months for the protocol manual to be endorsed. The Director of ICU explained that:

Well actually, we have one booklet but it's not completed. This booklet is like the standards for ICU. It is actually adapted from the American College of Chest Physicians. Most of our system is using the guidelines as adapted by American Colleges of Chest Physician and Critical Care, but it's not yet approved by the hospital because it has to be approved first by the Quality Assurance Committee.

The Quality Improvement and Patient Safety Director confirmed that the delays in implementing policies and protocols were associated with borrowing information from overseas since they needed to be adapted and modified to the local conditions. He noted that:

First of all the policies and procedures are not done here specifically. They are taken from international policies or are brought here from other hospitals within the Kingdom. There is no real policy making. It's ready made so we just copied it...yes, there is some modification according to our hospital purpose and what is available.

This process of investigating other institutions and organisational standards is an example of a CAS. Given that each CAS is nested in another CAS no one agent has a global view and, therefore, the capacity to see the total picture. McDaniel and Driebe (2001), suggest that each agent acts based on local information seeking to continuously improve its fit with its environment, thereby achieving local optimum.

Borthwick and Galbally (2001) make the point that social, political and economic factors influence policy and practice development. Whilst it was appropriate to borrow and adapt policies to the ICU standards, they lacked specific guidelines for nurses. The process of acquiring policies and procedures from outside the hospital underpinned the indirect influences on quality care in the ICU.

Indirect Factors

The category of indirect factors was linked to the intermediate factors by people outside the ICU who had a controlling influence on the hospital at a macro level. These people by virtue of their seniority and position in the hospital organizational structure were external to the ICU, but had an indirect influence on the quality of care. The concept of indirect factors and their influential relationship inside the ICU was captured in this quote by the ICU Director:

I have a full authority to implement standards within the ICU. But quality not only involves inside issues, it also involves many other departments and all these things are indirect. It would be difficult for us [in ICU] to implement quality on our own.

The above quote highlights a characteristic of a CAS. In complex theory Cilliers (1998) noted that a system receives processes and retains information whilst producing an output. This can result in a form of internal structure or self-organisation as the result of complex interactions between agents and the environment. This is a non-linear dynamic relationship. If clinical governance is viewed from the perspective of a CAS then it too has a non-linear relationship with all stakeholders in the health care system.

The themes that emerged from the data that emanated from indirect factors were: *leadership and bureaucracy*; *quality management*; and *ongoing education*. Undergirding these themes was a disconnection to the reality of nursing practice and the influence senior management had on the nurses' ability to provide quality care. There was also a lack of common ground in terms of what quality care meant.

Leadership and bureaucracy

Whilst there was an overlap in terms of hospital bureaucracy between the intermediate and indirect factors, the theme *leadership and bureaucracy* referred to the role and actions involving the highest managerial levels of the hospital. It was at this higher level of authority that priorities were established, policies were developed and processes of operation were decided, that ultimately impacted on care delivery in the ICU. The powers at this management level were described by the Hospital Director who stated:

It depends on the ability of your position to make change. You can make administrative work easy but is something you cannot do. To change a rule (policy) I need to send it to a higher authority. For example, the head of finance who should be a Bachelor of Finance, but unfortunately he is not. So I have to send it to the higher authority, to our Regional Directorate. They may need to send it on to the Ministry of Health for the final say.

It was at the higher management level that resources were selected and approved for the ICU. Also major decisions were made about allocation, replacements and maintenance of modern equipment. Clearly the above statement is characteristic of a bureaucratic organization, which emphasises an internal hierarchy with lines of responsibility and authority with activities formally distributed. Power and status in a bureaucracy are determined by position in the hierarchy providing a sense of stability and predictability. A CAS, however, is fundamentally unpredictable over time. This fluidity is related to each agent and each system being nested within other systems that all evolve and interact (Plsek & Greenhalgh, 2001).

The senior managers viewed the resource needs of ICU, as being associated with impressive technology. The Hospital Director responded to the question of quality by saying that: 'don't forget all equipment is new'. Complexity based organisational thinking suggests that goals and resources are established with a view towards the whole system, rather than artificially allocating them to parts of the system (Plsek & Wilson, 2001).

This study was limited in that it was impossible to interpret whether the Hospital Director saw a link between the whole hospital and the ICU as having an influence on the overall quality of care that was being provided by nurses. It is

suggested, however, that this link was not made, since nurses were rarely, if ever, consulted or involved in discussions about acquiring new equipment or how it would be used and maintained. Consequently, there was no understanding of the common material needs for operating the ICU. This finding was consistent with Aiken, et al. (2001), who suggested that nurses want more communication with management about allocation of resources and the creation of an environment that is conducive to high quality care. Peter, and Liaschenko (2004), suggest that decisions that result in stress are more easily made from a distance, for example making budgetary decisions, is less distressing for the decision maker when they do not see the consequences. From this perspective the up-close view of patients and nurses as real people, and not just numbers, is disregarded.

This notion coincides with Andrews, et al. (2010) study of middle managers who felt deliberately excluded by administrative superiors who neither desired nor valued their input. Such a response is more common in a rigid organizational culture since judgments from top managers are more likely to be accepted than those with expertise. It is argued that there should be collaboration between physicians, nurses and managers when decisions affect patient care, since all have a unique professional body of knowledge. They also have an array of problem solving skills so they can act more or less autonomously in accordance with the standards of their profession (Ashmos, Huonker, & McDaniel, 1998).

Organisations consist of many managers who interpret events from their own perspective. Beck and Plowman (2009) argue that each interpretation is likely to shape the interpretation of others laterally, vertically and horizontally within the organization contributing to what the organization learns. Learning is enhanced when there is a focus on multilevel information sources (Schwab, 2007). Middle managers act as a conduit between top level management and those below them in the hierarchy. Thus, the complexity of information and the number of potential interactions is greater than that of top managers (Floyd & Lane, 2000). It is the diversity of information and collaborative learning that can lead to changes. The power differentials within the organization, however, may hamper the sharing of information and result in faulty interpretations (Beck & Plowman, 2009).

Front line managers are a key mechanism for connecting the hospital's mission with the providers of bedside care as well as a vehicle for communicating the responsiveness of the administration to the concerns of front line care givers (Aiken, Clarke, & Sloane, 2000). The difference in perspective between clinical professionals and middle managers is due to the fact that clinicians are socialised external to the organisation and middle managers internal to the organisation (Ashmos, et al., 1998). The traditional dual hierarchy, managers and clinicians, creates pressure and conflict as patient care is governed by one structure and administrative structures, by another (Ashmos, et al., 1998). Whereas all middle management in this study were clinicians, none were educated to be managers.

Within this rationalized linear organizational structure the technical core is isolated from the administrative core in the belief that it is easier to manage. This arrangement, however, disregards the evidence that a hospital is a complex environment. In order to adapt and survive the turbulence of health care, managers are increasingly turning to making sense and interpreting the situation rather than trying to control that which is uncontrollable. Sense making is a social act that requires agents to interact to develop a collective mind in decisions (McDaniel & Driebe, 2001). Organisations that can anticipate and adapt rapidly are better suited to unpredictable environments. They are not dependent on top management and have the ability to self-organise (Stanton, Lemer, & Mountford, 2010).

It is argued by Stanton, et al. (2010) that governance systems and processes need to be robust to operate throughout the organisation. This robustness includes communication and leadership systems that acknowledge the critical place that clinical staff play, in implementing quality processes or reporting faults on quality processes. It is the clinical leaders who operate in daily contact with clients and patients and who are more likely to recognise and be able to respond to deficits in patient care services or lapses in quality (Stanton, et al., 2010). Often the nurse clinician who works with patients, colleagues, relatives and patients, are best placed to identify inefficiencies and problems. They can also identify the most appropriate solutions for these issues (Stanley, 2011).

In this study it was apparent that the influence of control from those people in higher authority undermined the ability of the ICU Director to implement change as seen in the following quote:

I cannot implement change to the patient in the ICU. Why? Because this is not approved. Other departments outside ICU with their authority make the rules. This process [policies for quality control] has to be approved and studied by them.

This comment contradicts the ICU Director's earlier statement which suggested that he had the authority to implement change. Perhaps what was meant was that decisions were made and policies developed outside the ICU, but he had the responsibility to implement the changes. These comments relate to the hospital operating on a traditional health care bureaucracy characterised by rules regulations and control and a hierarchical structure. In complexity theory, order, innovation, and progress can emerge naturally from interactions; they do not need to be imposed centrally or from outside (Plsek & Greenhalgh, 2001).

Many hospitals continue to base their structure on Weber's ideal bureaucracy blueprint (Robbins, Bergman, Stagg, & Coulter, 2000). Organisational structure at least in part determines much organisational behaviour (Badrick & Preston, 2001). This old style of organisational structure, however, is being replaced with organisations that have a shared vision, partnerships, patient empowerment and professional collaboration (Aiken et al 2000; Clark, 2008). Such an organisation is one that has implemented the clinical governance framework

Leadership inspired by complexity theory recognises that change occurs naturally within the system and that individuals engage in this effort for a variety of reasons. Variation is considered natural within any complex system where there is interaction between many different factors (Plsek, & Wilson, 2001). It is suggested that leaders at all levels need to develop a more sophisticated view of the role of variation in complex systems. This can be accomplished by exploring with others the degree of certainty and agreement around both the "what" and the "how" of a given issue, along with an understanding that innovation requires occasional variation even when all seems certain and agreed (Plsek, & Wilson, 2001). An example of this characteristic was embedded in the statement by the Hospital

Director when providing an account of implementing accreditation guidelines from other countries: 'I am going to observe...but with our rules and regulations our government rule'. In a CAS self-organisation does not imply no leadership, rather it is about equipping people to be leaders in order to be innovative and independent in unpredictable situations (Chaffee, & McNeill, 2007).

The significance of effective leadership is becoming increasingly apparent in health care (Firth-Cozens & Mowbray, 2001; NHS Executive, 1999). In this study thematic analysis of observations and interviews revealed that an ineffective leadership was an inhibiting factor influencing the quality of care both at the upper level and unit level of management. Successful implementation of quality management in all organisations including health services, leadership is considered to be an important component (Firth-Cozens & Mowbray, 2001). This importance is associated with the perceived and actual influence of leaders, at all levels, on employees' performance and organisation's achievements. The capacity of a leader to influence followers, however, is dependent on their power over the employees. The possible sort of power that enables leaders to motivate others derives from positional authority, reward power, power stemming from expertise and interpersonal power (Barbuto, 2000). Managers establish systems create rules and operating procedures such as incentive programs (Robbins, 2002). In the case of a CAS motivational forces are values, or behaviours that people are drawn towards (Chafee & McNeill, 2007). These attractors can be used to entice people to a new activity, such as in this study, to the process of accreditation.

The way that leaders function vary and can be located along a continuum from authoritative to participatory in leadership styles (Davidson, et al., 2003). Leadership styles are undoubtedly influenced by the mission and types of organisation, together with the beliefs and values of the individual, organisation and broader society (Davidson, et al., 2006). Proponents of complexity theory suggest that because CAS are open systems a mission statement attempts to identify borders and may work to the detriment of the organisation (Cilliers, 2005).

Until recently and the advent of accreditation, society understood that health professionals worked in a hospital to alleviate human suffering. Since the quality of

health care has become of increased interest to all stakeholders including consumers, one of the standards the accreditation surveyors are checking, is that a mission statement is placed in a position for all to observe. One could argue this is for consumers benefit rather than a vision for health care professionals. In this study the hospital mission statement document contained the mission, vision and values (see Appendix L). In terms of quality care, the mission was the provision of a high standard of health services, the vision was to improve the quality of health care services and the value was about caring for the patient's privacy and safety. Whilst the document was clearly evident in the hospital entrance, the participant's responses suggested that they were unfamiliar with the content and were less clear about the meaning and significance of an organisation's responsibility to develop and implement a mission statement, including the underlying concept of quality.

It is proposed that the key to improving safety and quality processes is to focus on the development of leadership skills at the level of staff that function as clinical leaders (Murphy, Quillinan, & Carolan, 2009; Rich, 2008). In the final report of the Department of Health (UK) review of high quality care (2008), Lord Darzi suggested that unlocking talent is a way of achieving high quality care. This involves tapping into leadership skills and potential for all front line staff including nurses.

In Western Australia leadership development and the need to foster it at all levels was seen as central to the development and modification of the Western Australian health agenda (Stanton, et al., 2010). The drive to improve quality and support the integration of quality improvement sits at the heart of the need to generate more effective clinical leadership. Linked to all these issues is the realisation that if care is to improve and develop then change and innovation in practice is required (Stanley, 2011). Clinical leadership is at the forefront of the clinical governance framework implemented in the Western Australian health care system.

Quality management

In this study quality management involved all those processes initiated by the hospital for control of patient care services and encompassed quality assurance, quality control and various specific strategies for ensuring hospital compliance with set standards. According to the Hospital Director, a significant effort was being made by the health authorities to ensure quality and safety standards for health care. It was believed that mandatory accreditation was necessary in order to affect change in hospital functions.

At the time of this study preparation for hospital accreditation was in progress. It was the expansion of hospitals including specialized units that influenced the Saudi Arabian, Ministry of Health to introduce mandatory accreditation for the first time in all public hospitals. In the Western world the driver for a more integrated system of providing quality care has been the changing attitudes of consumers to professional independence, societal values and litigation (Leggat, et al., 2006). Additionally, the media is questioning the competence of management and clinicians on issues concerning quality health care (Leggat, et al., 2006). The Hospital Director of the hospital under study was also concerned about the media stating: 'what alarms me is when patients complain to the newspaper [this] indicates that something is wrong'.

Prior to preparing a strategic plan for implementing accreditation, a survey of the existing hospital standards was undertaken according to criteria from another institution. The survey was conducted by surveyors who had undertaken a fourteen day training course in accreditation. The surveyors were medical practitioners, nurses and administration managers employed by the hospital. The results were kept confidential in order for the Hospital Director to 'know where I am standing'.

Viewing hospitals as CAS suggests that they adapt to the changing environmental conditions by gathering information, which enables them to continually organise and reorganise (Ashmos, et al., 1998). The manager's role in a CAS is not to foresee the future, rather to establish and modify the directions and boundaries within which effective, improvised, self-organised solutions can evolve

(Anderson, 1999). Bricolage, knowing existing situations and the ability to create what is needed, is a valuable way of dealing with complex situations (McDaniel & Driebe, 2001).

In addition to the internal survey, an independent survey was conducted by the 'Saudi Central Board in Dammam for quality in nursing and other different departments'. It revealed that the hospital 'was stepping in a different way...with 47%...unmet standards'. The survey assisted the Hospital Director to make changes and introduce some improvements, as he said that: 'Whether it was due to building infrastructure...qualifications...knowledge of employees...vision and mission not [being] clear...we changed it'. The Saudi Central Board's survey, however, was not interpreted as the reality of what was happening in the hospital. The Hospital Director remarked that he 'evaluates reality, what is good for the patient... the patient has a good outcome, good care for me is good standards according to the size and availability of resources...meaning quality needs money'

Accordingly, the Hospital Director developed a ten part strategic plan for accreditation using the six sigma framework. There was, however, little evidence of a paper trail at the time of the study to support this concept and there was a general apathy towards the need for accreditation. There may have been several reasons for this response. One of them might have been the use of an industrial model such as six sigma for hospital accreditation.

Six sigma was developed by Motorola and involved a mathematical equation implying 3.4 failures per million events (Merry, 2008). It was argued that whilst six sigma was similar to other quality management approaches, few studies in health care have supported its claim to represent a new organisational structural approach to improvement (Boaden & Harvey, 2008). In health care failures are not acceptable and health professionals learn from their mistakes. Human beings are complex open-system entities and variations are the norm. According to Cilliers (2005), 'the presence of emergent properties does not provide an argument against causality, only against purely deterministic forms of prediction' (p.9).

In various countries over the last twenty years a number of approaches to quality improvement have been tried and discarded. Most have been adopted from industry with little attention paid to the complex health environment including the multiplicity of health care professionals and allied health workers. It is argued that strategies for quality improvement borrowed, or modified from industry, have superficially been evaluated for their effectiveness. Not only have they consumed considerable resources, but have had few benefits for patients (Shojania & Grimshaw, 2005). Bigelow & Arndt (2000) criticise the use of adapting business processes into hospital. They suggest that this strategy was based on the belief in its inherent superiority. Aiken, Clarke and Sloane (2000), also argue that the emulation of industrial models of productivity and improvement has had limited success in terms of improving patient outcomes and in some cases has yielded negative outcomes.

A barrier to the effectiveness of health care quality programs is that some managers view them as optional (Ovretveit, 2004), and focus on efficiency in terms of costs (M Berwick, 1998). Viewing hospitals as CAS it is not surprising that industry approaches have not been successful in achieving improvements. According to Cilliers (2005), dissecting the organisation into parts destroys what it seeks to understand. Rather the organisation should be viewed as a whole and the meaning should be made observing the relationship between parts.

Whilst some aspects of quality may be easy to define some elements remain elusive (Donabedian, 1996). Senior management had various ideas about the term quality as illustrated in the following quote:

people don't understand ... the term quality (ah) regardless of talking about the standards and the indicators ...when I ask them [employees] to start working on the standards ... they are not willing because they really do not understand what is going on and why

This issue was seen as a general lack of understanding about standards and quality indicators. Quality control measures had been introduced, but there was no clear vision and a lack of management expertise in quality standards at the higher level of management. It seems that quality was interpreted as being associated with

accreditation rather than a concept inherent in all health professionals role. In a Swiss study, Hudelson, Cleopas, Kolly, et al. (2008) found that both doctors and nurses deemed quality in health care as a personal and professional contribution of a practitioner. In recognising the dynamics of the organisation, hospital administrators are advised not to mask the core business of the organisation with documents and policies (Anderson, et al., 2005). It may have been an abundance of documentation that was cause for concern in implementing the accreditation process in this study.

Although one hour seminars were conducted it was mostly nurses who attended. The reasons for non-attendance were 'too busy', 'involved in other medical things' and some wanted 'an allowance'. Since the lectures were not compulsory the message of why accreditation was important, did not reach all employees. A senior manager sensed that resistance was generally from the medical practitioners and associated this issue with lack of reinforcement from 'higher authorities'. Senior managers perceived that staff was 'reluctant' to cooperate with managers and to make changes for quality care. This was illustrated by a senior manager who commented that:

Personnel...have a lack of awareness of the importance of the quality. They are reluctant to cooperate with those people who are assigned to apply quality standards.

In the fifth phase of the strategic plan for implementing accreditation, the Hospital Director said that employees needed to be taught about quality: 'let them understand...because it is a new thing a new trend'. Quality control measures were seen as the major responsibility of senior managers. The Quality Improvement and Patient Safety Director, identified that there was a shortfall of information, guidance and incentives provided for staff to implement the expected quality standards. Heracleous (2003), concurred with this finding and pointed out that a lack of employee and middle management commitment and their perceptions of poor consultation, has been attributed to the failure of management strategies. Strategic decision making, however, is subject to the power and influence of groups internal and external to the organization (Maddern, et al., 2006). One such group and a systematic problem in implementing change within a professional bureaucracy, is the challenge to medical dominance and clinical autonomy.

Professional bureaucracies seek to control their work by controlling the administrative framework of their organisation (Mickan & Boyce, 2006). These types of bureaucracies have traditionally operated in hospitals (Preston & Badrick, 1998). Health care organisations, however, are challenged to define and measure output in a highly variable complex, exacting and reactive environment where ambiguity or error are not tolerated, and there is a diverse range of health practitioners (Mickan & Boyce, 2006). Anderson and McDaniel (2000), proposed that health care organisations are best conceived as CAS operating in a professional milieu. This perspective can then lead to different conclusions: instead of effectiveness and efficiency, according to a traditional bureaucracy.

The emphasis on quality improvement strategies has been management driven in the hierarchical organisational structure and a top down evaluation and monitoring system (De Vos, et al., 2007; Wilkinson, et al., 2004). According to Cochrane (Cochrane, 1999) practicing managers and health care professionals live in different worlds. Clinicians do not feel that either organisational factors or managerial involvement were helpful in changing practice and improving care (Blandford & Smyth 2006; Lewis & Boldy, 2006). Physicians can view managers in terms of technical matters devoid of emotional issues, and with distrust, as managers do not have a scientific base in their professional training. Often there is an antagonistic or adversarial relationship and an inability to find common ground and a collective vision (Lewis & Boldy, 2006). Professional allegiance can present an uneasy juxtaposition to clinical managers who may have a different discipline (Mickan & Boyce, 2006).

Clinical governance is viewed by some as another attempt to control medical practitioners' clinical autonomy with processes such as benchmarking. It involves micro-managing daily clinical decisions and work practices of all health professionals. Moreover, it holds each accountable for patient care, but at the same time attempts to exercise control over the medical professional at the clinical level: the last bastion of medical dominance (Germov, 2009). In clinical governance managerial involvement is greater in clinical processes and has a corresponding emphasis on leadership (McSherry & Pearce, 2002).

In the ever increasing complex health care organisation such as a hospital, there are concerns from stakeholders how to solve problems. Plesk and Greenhalgh (2001), suggest that using the traditional rational deduction method of problem-solving, is no longer appropriate. In a CAS, success comes from the capacity to learn from each other and the value of each other's insights (McDaniel & Driebe, 2001). Effective organisations have been described as those with a shared culture, shared learning and sharing of effort and information predominate (Wilkinson, et al., 2004). This concept, however, challenges medical dominance and the belief that medical practitioners know all the answers to improvements in health care.

Generally, managers are accountable for others, set goals, make decisions, allocate resources and organise people (Leggat, et al., 2006; Mintzberg, Lampel, & Quinn, 2003). Health care managers, however, need skills that bridge the worlds between management and clinicians with a style that includes convincing rather than controlling, facilitating rather than deciding, and linking rather than leading (Glouberman & Mintzberg, 2001). Problems occur when learning is transformed into a recipe and attached to a central set target; a compounding problem when those advocating the change construct the case for it in terms that match their own natural attractors (Plsek, & Wilson, 2001). Agents are unique, political situations differ and random events occur (Anderson, et al., 2005). Thus, advice should be framed in ways that enhance agents' core sense of autonomy, integrity and ideals (Plsek & Greenhalgh, 2001).

As an example of using attractor patterns in implementing clinical governance in the UK, medical professionals were co-opted into clinical governance by providing a semblance of delegated authority (Flynn, 2002). According to Mintzberg, Lampel, and Quinn (2003) professionals respond to inspiration not supervision. Likewise the Department of Health Western Australia involved clinicians and a patient-centred focus to implement the clinical governance framework. This provided a clear vision, as it is at the heart of all health professionals *raison d'être* for their chosen career.

Clinical governance offers an approach which runs counter to the orthodox management styles of competitive relationships and an extensive hierarchical

checking between people in the organisation (Blandford & Smyth 2006). Significantly, clinical governance is underscored by the idea that future efficiencies and quality improvements can be achieved by involving those who make clinical decisions (Lawson & Rotem, 2004; Leggat, et al., 2006). The shift in a CAS is from control to making meaning and preparing the organisation to meet an unknowable future by unleashing the organisation's potential (McDaniel & Driebe, 2001). The central agent with responsibility for the organisation cannot control the behaviour of local agents nor predict the future. Thus, the characteristic of a CAS is that there is 'distributed control rather than central control' (Zimmerman, et al., 1998 p.10).

While forces for change in a hospital are broad and deep they operate in an environment that remains highly regulated. The challenge is to create a working environment that takes advantage of the positive aspects of fundamental changes that have occurred in the past (Johnstone, Dwyer, & Lloyd, 2006). Things do not happen in isolation independent of the context. In a complex system, memory is distributed throughout the whole system in the dynamic feedback and interactions of agents. Thus, the whole cannot be predicted on its parts, rather it is important to make meaning by interpreting the emerging patterns (Cilliers, 2005).

Resistance to changing the *status quo* is likely to change the power balance between stakeholders particularly medicine where expert knowledge is located and jealously protected (Johnstone, et al., 2006). Change involves moving from a comfort zone to an unknown and potentially harmful situation. Health professionals, however, are notoriously difficult to manage (Braithwaite, 2004). Professional self-regulation is a privilege and not a right and cannot be assured without a system of explicit criteria, standards requiring hard evidence of compliance (Blandford & Smyth, 2006). In recent years there has been a shift in Australian society from professional paternalism to patient autonomy and community standards. Clinical governance brings together credentialing, clinical audits, peer review into an organised process (Blandford & Smyth 2006).

To-date there has been several improvements in patient outcomes since the introduction of the Western Australian model of clinical governance in 2001. These have included zero catheter associated bloodstream infections in two major tertiary

ICUs. Other improvements are related to: an increase in the appropriate use of DVT prophylaxis in surgical patients; reduction in MRSA bacteraemia events; and a reduction in pressure ulcer prevalence (Jones, 2008). These improvements provide evidence of an inclusive approach to patient safety, leadership and accountability.

In this study, part of the strategic plan in the hospital under study was the establishment of 26 committees. Their function was to oversee and coordinate all the processes and data, and the establishment of a Quality Improvement and Patient Safety Department. Accordingly, a Director was appointed with the responsibility of planning and organizing quality and performance measures, including risk management and standards throughout the hospital. Information such as admissions, consultations in the Out Patient Department, problems in the Emergency Room were forwarded to the Hospital Director. The most important thing he believed was: ‘how many new files opened; how many patients admitted; how many patients discharged; how many operations done; and how many deaths on that day;...then I will pick some and send it for analysis to the Quality Assurance Committee. Whilst all comments and reports were forwarded to this Department for analysis, the Quality Improvement and Patient Safety Director, worked alone with no administrative assistance.

Implementing risk management was one of the criteria for hospital accreditation. The policy at the time of this study, focused on the safety of the hospital premises, equipment and fire prevention. No provision was made for protecting patients and staff from injury nor was there insurance cover, for example, there was no evidence that a nurse would be compensated if he/she sustained an injury at work.

Risk management can integrate levels of employees and link with the notion of a learning organisation. The essence of this notion is that managers have to actively learn from experience to deal with the permanent turbulence of a complex organisation. Agents have to adapt and reframe problems. Dealing with turbulence involves an active assessment of opportunities and risks not doing what worked before (Blandford & Smyth, 2006).

The management and avoidance of risk are fundamental to clinical governance (Lugon & Scall, 2000). It is possible to reduce and eliminate errors and inappropriate variance in clinical care by using benchmarking clinical outcomes, and developing best practice guidelines. It is, however, a continuous challenge to motivate agents, such as nurses and medical practitioners, to work together on problems associated with quality when there are barriers and obstacles including time, territory, traditional trust (Berwick & Donald, 1992). Clinical governance is a mechanism through which health care organisations are held accountable for continuously improving the quality of their services and ensuring high standards of care (Davidson et al., 2003). It provides a direct link between organisations and the nurse in providing direct care (Cranston, 2002).

Nursing staff in this study experienced multiple problems in relation to introducing quality standards. Essentially nurses were reluctant to participate due to misunderstandings and ‘misconceptions’ that arose from, ‘a lack of knowledge of what quality means’. To explain these constraints and the reluctance, or ‘resistance’, of staff, the ICU Director noted that:

I think people [staff] are not yet willing...Generally, there is like a resistance to implementing quality. I think part of this is the reporting of everything, but one of real difficulties in general is a lack of knowledge of what quality means. The other thing, I think, is reluctance from authorities to actually implement quality. And part of the resistance maybe people [staff] feels that quality is more of investigation. Yes there is a misconception that quality might relate to them to medico-legal issues. I think too that all this reflect a lack of knowledge of what quality means.

A major deterrent for nurses in providing quality care was the lack of support to make changes such as those surrounding incident reporting. Due to a lack of clarity in this policy and nurses uncertainty, it was not strictly followed and nurses often felt that they would be blamed for an incident. As another example, infection control standards were difficult for nurses to comply with because of insufficient personal and protective equipment. Hand washing was compromised when they had responsibility for more than one patient. Nurses’ basic problem with the quality standards was the lack of support with incident reports and a failure to make available the resources needed by a nurse to ensure safe patient care.

I was taught that quality was doing the right thing every time and always. But sometimes we cannot give the best safe care to the patient. We cannot do what they [supervisors] see as right, not because we do not want to do it, but because they are not available for us to help. Sometimes there is no body that can tell you what is right way.

Difficulties encountered in establishing accreditation requirements included a lack of expertise and the limitations of staff awareness of the concept of quality and its relevance to standards for practice. These deficiencies impeded progress in adopting a quality of care framework for ICU. As identified by the Quality Improvement and Patient Safety Director, in-service education was needed to increase the knowledge and understanding of quality.

Ongoing education

The final theme in the indirect factors that influenced the nurses' ability to provide quality care in the ICU, encompassed opportunities and barriers to advancing nurses' knowledge and skills of the specialty. Central to the nurses' concern about providing quality care was the upgrading of nurses' performance in the ICU and the need for staff-development activities. Strategies such as case conferences and seminars together with the opportunity to study at a postgraduate level featured in the nurses commentaries.

Continuing education attendance was mostly an impossible criterion due to the limitations of time and staff shortages in the ICU. The ICU Director concurred that the inadequacies of nursing education hindered the full operation of ICU, but felt that:

Manpower is not really enough...cannot fully operate it until I have enough staff. Nurses' face a lack of education...few with bachelor and the majority only with diploma qualification.

Despite the ideals of the hospital hierarchy for nurses' to undertake formal education, nurses in the ICU encountered recurrent difficulties with accessing higher education. Nurses who did participate in continuing education, were expected to attend in their off duty time and pay the fees. Whilst this is an expectation of most

nurses in Western Australian hospitals, there are scholarships available from the Department of Health and special funds in most teaching hospitals for continuing education opportunities. This provision is made in the light of the Australian Nurses and Midwives Council competency standards which state that registered nurses must participate in ongoing professional development of self and others (Australian Nursing and Midwifery Council, 2006).

Likewise in Saudi Arabia the renewal of nursing registration stipulated that nurses must have certain credits for hours in training and development. This requirement, however, was not enforced. Blandford and Smyth (2006), argued that credentialing and self-regulation is a privilege not a right and cannot be assured without rigid standards and evidence of compliance. Clinical governance brings together credentialing with other forms of quality control activities.

Among senior hospital officials there was frequent discussion about the need for further education for nurses. They associated the need with the highest level of specialisation and the limited preparation of most nurses, in the ICU. The Hospital Director described local nurses need for education concerning quality assurance. A few Saudi nationals were supported to study overseas, while others were assisted to study within the country. The reality was that while medical personnel were sent to other countries to study, nurses were unlikely to be offered the same opportunity.

The Hospital Director felt that a solution lay in further education for Saudi nationals. He stated that:

Foreign nurses, maybe they are more educated and have more knowledge coming from overseas and know their own culture. But because of the language there is a conflict for foreign nurses with the patient which is communication...It is really difficult that we do not have enough graduates and skilled nurses. The language is prominent problem and will not be solved till we have our own national staff.

The expatriate nurses, although better qualified, lacked Arabic language, skills and knowledge of cultural norms. This made it difficult for them to participate in the in-service education on quality, since it was conducted in Arabic. As Legge, Stanton, and Smyth (2006) suggest much change can be accomplished by intellectual

learning and learning to question strongly held assumptions at all levels of the organisation. This process, however, can sometimes be difficult given the traditional status of women in public life. Tradition can stifle change and innovation in a bureaucratic organisation. The use of Arabic language is basic to Saudi Arabian tradition.

Filopino and Indian nurses generally use English as the communication medium in their education. English is also the predominant language used by staff in the hospital under study, but the patients use mainly Arabic. This discrepancy poses issues and affects patient care since the nurses' self-confidence is affected. Yu Xu (2005) points out that this problem could pose a vicious circle as the more nurses become frustrated the more they lose confidence and the more mistakes are likely to be made. Cultural separateness and loneliness and miscommunication can lead to underestimating the competence level of the nurses. Additionally, some overseas nurses might be disinclined to admit they do not understand a task or instruction for fear of losing their position (Omeri & Atkins, 2002). Cultural processes create and maintain barriers to practicing safe nursing care these barriers are put in place by cognitive processes, organisational procedures and the institution's culture (Hazelhurst & McMullen, 2007). Myungsun, and Jezewski (2000) found that the process of adjustment in terms of: relieving psychological stress; overcoming a language barrier; accepting culture of nursing practice; adopting problem solving strategies; and styles of interpersonal relationships, can last from two to five years.

In conjunction with clinical governance organisational learning was identified as an essential part of quality since it is connected with personal and professional development (Staniland, 2007). Risk management has strong links with a learning organisation which actively learns from experience to deal with the complexity of health care and health professionals (Blandford & Smyth, 2006). In Australia the Occupational Health and Safety Commission mandate that employers have a duty to implement strategies for hazard identification, risk assessment, risk control and review in the workplace and to make sure employees receive appropriate training, instruction and supervision (Australian Government, 2011).

Retaining and recruiting nurses could be improved if the culture of the organisation valued and empowered nurses to develop professionally and personally. In a learning organisation everyone is making improvements as learning is valued. Staff should be formally oriented and adequately prepared to use new equipment and technology. While it is generally accepted that professionals have a responsibility for their own learning, it behoves health care organisations to facilitate this activity since human capital investment in health and education is the key to being able to adapt to issues and problems in the future (Day, Yacopetti, Rickard, & Courtney, 2008).

Within the clinical governance framework the pursuit of clinical excellence of the organization can be promoted, provided staff are appropriately skilled, knowledgeable and competent to practice (McSherry & Pearce, 2007). In a study of medical practitioners and nurses perception of quality both health professionals saw it as primarily the responsibility of the individual practitioner and was dependent on their competence; a notion that equates to the traditional ethos of professionalism in medicine and nursing (Hudelson, et al., 2008). This finding is in tune with clinical governance which advocates that individual staff members should be actively supported to further develop, apply and evaluate the care and the services provided, with the aim of improving the quality and standards of care (McSherry & Pearce, 2007). The aim of clinical governance is to make sure that health care organisations develop systems of culture and ways of working that ensure quality care is at the heart of the business of all organisations at every level. Chief executives in the UK are now ultimately accountable for the quality of care delivered in their organisations (Royal College of Nursing, 2000).

Nurses at all levels are able to influence improvements in practice, leading to an improved experience for patients (Royal College of Nursing, 2003). Clinical governance is about not only improving patient care, but also valuing staff. This can be achieved by providing a safe healthy and supportive working environment with time and resources for continuing professional development (Currie, et al., 2003).

Summary

This discussion chapter revisited the concept of clinical governance and its links to complexity theory. It endeavoured to weave the findings of this study within these concepts and included where appropriate support from the literature. Whilst there was evidence from participants that efforts were being made to introduce accreditation processes by senior management, at the ‘grass roots’ level nurses were continually thwarted from providing quality care through insufficient resources and lack of support from managers. Key factors that were found to compromise the quality of care in the ICU included the undermining of nurses and inadequate enforcement of practice standards. Moreover, nurses suffered both physically and psychologically by not being able to do what they were trained for: to provide quality care to all patients. The following chapter will conclude the study and provide recommendations.

CHAPTER SEVEN

Conclusions, Recommendations and Limitations

Introduction

This chapter concludes this thesis by drawing together a summary of previous chapters and making some concluding remarks. It will also provide some recommendations in light of the findings. The thesis will close by detailing the limitations of the study.

This study has addressed the research objectives, as stated in chapter one, which were:

- 1- To describe the demographic characteristics of nurses employed in a regional Saudi Arabian ICU;
- 2- To investigate standards of nursing care delivered in the selected ICU;
- 3- To identify and analyse the nurses' perceptions of factors which influenced the quality of nursing care delivered in that ICU of the regional hospital.

The preceding chapters have outlined the findings of this study in detail. In the conclusion specific contributions to the body of work on the quality of care for nursing in the ICU setting are summarised under each of the objectives.

The first research objective findings have provided a demographic profile of nurses employed in a regional Saudi Arabian ICU. This profile is a valuable source of information that will assist future researchers and in brief shows that the participants working in the ICU were from three nationalities including Saudi Arabia, India and the Philippines. The age profile range from 22 years to 45 years and the prime qualification was a Diploma in Nursing. Only 37% of participants had a post basic qualification in ICU, however, 64% had more than 3 years of work experience in ICU.

The second research objective findings indicated that the standard of care in the ICU was variable and had been dependent on the traditional medical model. The findings indicated that nurses were not actively participating in setting the quality agenda. This is related to the lack of role clarity, awareness and access to information and resources on quality.

The third research objective findings allowed for the development of a model that depicts the influences of the quality of nursing care within the ICU setting. The main themes were direct, intermediate, and indirect factors.

Discussion on concluding the study follows in the sections of background and context, recommendations, limitations and direction for future research.

Background and context

The majority of patient care within the ICU is delivered by nursing staff. This study sought to discover and explore the factors which influenced their ability to provide quality care in an ICU in Saudi Arabia. The rationale was predicated on the Saudi Arabian health care service experiencing a more sophisticated and highly technical environment, with a corresponding increase in the number of ICUs. A corollary to this increase has been the demand for appropriately skilled nurses to provide continuous quality care. It was whilst working in an ICU that the researcher observed issues that impacted on the nurses' ability to provide such care, and felt that these issues warranted further investigation. Factors influencing the quality of care from the nurses' perspective have rarely been investigated. In addition, there is a dearth of literature that focuses on the factors influencing the quality of nursing care in Saudi Arabia.

Perspectives on quality

An exploration of the concept of quality from a general, industry and health care perspective, uncovered that it was a ubiquitous concept with different meanings and

different perspectives. In the industry literature, there were many attempts to define quality, but the focus was on the production of goods. Essentially, it was argued that principles, structures and processes adopted from industry had no place in health care since it was more complex than a production line. From QA, and its audit checklist based principles, to TQM, which was poorly adapted to health care, the focus was on management rather than clinicians who provided front line care.

The human factor, in terms of the patient and the health care professional, created a more complex environment than that of industry and commercial enterprise. The patient was often neglected as the recipient of health care. Access to the World Wide Web, has meant that people have a wide range of health related information on a global scale. Thus, the knowledge gap between health practitioners and patients has decreased and patients are in a better position to advocate for their right and choice of health care. Health care organisations without a clear overall direction of an organisation with a wide system of quality and safety program, were seen as uncoordinated and fragmented and more importantly affecting the quality of care. It was this fragmented system of factors that prompted researchers to recommend integration between the competing goals of health professionals, managers and consumers of health care. This has resulted in the health care consumer movement.

The business world of corporate governance has been adapted to health care, but it includes a working relationship between clinicians, managers and patients. Clinical governance puts the patient at the centre of the framework and brings together all clinical quality activities under one umbrella. As evidenced by the nurse participants in this study quality care is about 'patients receiving the right care, by the right people, in a safe environment' (McSherry & Pearce, 2007.p. 18). The clinician does not necessarily mean the medical practitioner, but rather the person who delivers care at: the bedside, in the wards; units; clinics; and where health services are provided. It ensures that each individual health professional is accountable for their actions, and that clinical quality exists throughout the entire organization. Significantly, it is collaboration and partnership between all the stakeholders demanding an open and honest culture that encourages and responds to

staff and public opinion. Thus, the organisational culture and climate play key roles in patient quality.

A number of benefits of clinical governance have been identified. At a management level, clinical governance provides clear strategic direction for health service planning. Other benefits include inter-professional teamwork, improved leadership and the involvement of patient and carers in improving care. From the public or patient's viewpoint, this involvement in care and access to information reduces risks and provides a greater satisfaction of care (Jorm, et al., 2008; McSherry & Pearce, 2007). Clinical governance has been described as a structured system for promoting quality care and health service planning. Whilst there are no 'magic wand' solutions to providing quality and safety in health care, Western Australia has embraced clinical governance as a strategy to improve health care. It was with this strategy in mind that the researcher felt that the clinical governance framework would suit the Saudi Arabian health care service and particularly the ICU.

Proposition

Given the issues raised in relation to the provision of quality care, the purpose of this study was to explore and describe the influencing factors on the nurses' ability to provide quality care in an ICU in Saudi Arabia within a clinical governance framework. In order to investigate this topic a qualitative, exploratory, descriptive case study approach was used. A case study is a research strategy which focuses on understanding the dynamics present within single settings and is beneficial when the phenomenon under study has not been previously studied. According to Yin (2009), the purpose of such an approach is to develop pertinent hypothesis or propositions for further studies. A proposition acts as a blueprint for guiding the research and keeps the study within feasible limits. It is not a grand theory, rather 'a hypothetical story about why acts, events, structures and thoughts occur' (Sutton & Staw, 1995, p.378).

The proposition taken in this case study was that *multiple factors influence the quality care registered nurses provide in an ICU setting. It was an assumption*

that these factors would be both internal and external to the ICU. Cognisant of this assumption the researcher's personal bias was kept separate and a constant dialogue with the supervisor kept the researcher focused. Findings from this study concurred with the assumption, but uncovered that between these factors another multiple dynamic system of factors existed namely: intermediate factors.

In keeping with the case study approach and the exploration of a bounded system (see chapter 4), the internal factors were categorised as **direct factors**, which had an immediate effect on the nurses' ability to provide quality care. The **intermediate factors** were those that encapsulated regular, but intermittent elements that impacted on nursing in the ICU and generally were associated with middle managers and the influence they had on quality care in the ICU. The **indirect factors** were related to elements external to the ICU and were generally associated with the influences of upper management on the quality of the hospital service which in turn affected ICU nurses' ability to provide care. Within each boundary, themes and sub-themes emerged, some with distinctive characteristics whilst others overlapped and were interrelated. These factors and themes were illustrated pictorially in a conceptual model (see chapter 5).

Prior to undertaking the discussion (see chapter 6) a further review of the literature was undertaken in light of the conceptual model, and the notion that hospitals are complex dynamic entities. A secondary engagement with the literature enhanced the analysis of data by sensitizing the researcher to subtle features. The review uncovered complexity theory as relevant to making sense of the challenges that the nurses face in providing quality care in the ICU. It also provided insight into organisational management. Moreover, complexity theory assisted in explaining some of the findings of this study and provided a perspective on the key elements of the clinical governance framework developed by the Health Department of Western Australia.

Numerous factors were identified through the process of thematic analysis as having significant implications for the quality of nursing care in the ICU. These factors were seen as being in a constant state of flux, with porous boundaries interacting and responding to the environment. The analysis of data revealed that

there were multiple, complex and interrelated factors that influenced the quality of nursing care in the ICU. The 'environment' and 'everything around' was seen as affecting the nurses' work and could potentially impact on patient care.

The context of responses from nurses to the question of quality was in relationship to patient care rather than quality *per se*. Interestingly, most participants understood that it was associated with standards and doing the right thing and 'care being free from error'. They also felt that team-work and 'harmonious relationships' played a large part in influencing patient outcomes. On the rare occasions when the nurses were respected for the role they played in being continually in touch with the patient, they experienced being valued. This affected their self-esteem and gave them job satisfaction which from their perspective enabled them to provide quality care. Clinical governance advocates sharing and discussion about patient information, and showing respect for different roles and competencies (Hudelson, et al., 2008). In a CAS it is this diversity that enables adaptability, creativity and change within the organisation.

In collating the findings from this study most factors affecting the nurses' ability to provide quality care, were associated with: responsibility for continuous patient care, workload, leadership and management issues; professional and the emotional demands of being at the patient's bedside, continuously monitoring for long periods of time; training and education and availability of resources. These findings were similar to other studies, but were different in terms of the environment and context of Saudi Arabia. Nurses in the ICU in Australia, for example, are expected to work shorter hours, be included in decisions affecting patient care, and are generally assertive when errors occur. Orientation to the working environment is also mandatory as is performance review, which includes competency to practice. Lifelong learning is one of the competencies and as such each nurse is responsible for attending continuing education offerings in the form of conferences, workshops, seminars and postgraduate courses.

A point of concern for all the participants in this study was the lack of professional education for the nurses in their bid to provide quality care. Strangely, while this was acknowledged there were few resources for nurses to avail themselves

of both in terms of a library, texts and post-basic courses in ICU nursing. Critically, there were no computers with access to the World Wide Web for nurses to investigate best-practice guidelines. Health care professionals, by virtue of their professional commitment, are lifelong, self-directed learners. It behoves them to keep up-to-date with research and evidence-based practice. It would seem that given this deficit, nurses could be placed in compromising situations since patients can learn more about their health and treatments for disease, as they have access to the World Wide Web. A learning culture as fostered by clinical governance recognises and facilitates individual learning.

Expatriate nurses in this study were disadvantaged in many ways not the least was the lack of support for continuing education and in-service education being conducted in Arabic. Saudi nurses were disadvantaged as they had no prior ICU experience and, moreover, lacked the skills and competencies that are learnt in a post-basic course. An overriding problem that affected nurses' ability to provide quality care was the lack of resources especially in light of the reuse of disposable equipment and the risk of cross-infection. This problem was also related to management personnel not listening to the nurses' concerns and believing that the new machines were the answer to providing quality care.

In addition to the communication issues, the concept of quality was interpreted by management as being associated with accreditation, rather than each person's responsibility in providing quality care. Clinical governance promotes accountability of the hospital for safeguarding high standards of care and maintaining an environment where clinicians can accomplish the task of providing optimal health outcomes for patients. For nurses in ICU this means an environment where there is a 'no blame' culture and where lessons from errors are learnt by the unit as a whole. Thus, it would seem that clinical governance might be a framework that could be utilised to cross professional boundaries and communication issues, since it embraces multidisciplinary collaboration and teamwork and focuses on the patient at the centre of care.

Globally nurses continually have the patients' interest at the forefront. This study uncovered that similar to other counties there was a perennial problem of staff

shortages, lack of resources and inflexible rosters. It could be argued that the Saudi Arabian health care system, the hospital and the ICU are undergoing a rapid change. With the changes that are expected in light of women's emancipation the future although being unpredictable could be viewed as exciting for nurses as they have the potential for making their voices heard in respect to providing quality care.

According to complexity theory when groups interact, develop, organise and adapt to the crisis situation and mutually affect each other it is a holistic phenomenon, because the whole is more than the sum of the parts (Holden, 2005). Additionally, viewed from a complexity perspective initial small differences can lead to huge differences in outcomes (Haigh, 2002; Holden, 2005; Plsek, & Greenhalgh, 2001). Likewise, clinical governance, once it was implemented in Western Australia, significant improvements in clinical outcomes were witnessed.

It is the coevolution of an organisation, for example the ICU, that is in a constant state of unpredictability. The genesis for this study was associated with the changes that were happening in Saudi Arabia and the workload of nurses to cope with an increase in patients. It was identified that whilst the direct factors influenced the nurses' ability to provide quality care, it was the intermediate factors specifically middle managers that hampered this outcome. It was evident that individuals making decisions about nurses' work were not in touch with the resources needed to provide quality care, nor the physical effects of working long hours. These unsociable hours were especially significant for the Saudi nurses with family responsibilities. Management personnel generally displayed a bureaucratic attitude of power and control. Clearly, in this study nurses felt disempowered, but because of the necessity to work they remained working in the ICU.

Health professionals are notoriously difficult to manage and this study has identified that friction between managers and medical practitioners together with lack of leadership skills may have been associated with the slow development of accreditation processes. There was also a lack of understanding about the necessity to provide mandatory, structured, in-service education for all employees on the rationale for accreditation and the meaning of quality. Within the clinical governance framework using natural attractors, such as the core value of quality

patient care and facilitating professional autonomy, has proved a successful strategy to motivate people to implement quality processes in Western Australia.

It has been argued that from an organisational culture perspective that there needs to be a shift from control to making meaning and preparing the organisation to meet an unknowable future by unleashing the organisation's potential (McDaniel & Driebe, 2001). Implicit within this argument is that a learning organisation is necessary for adaptation to future unpredictable events. Additionally, a learning organisation views quality as affecting everybody within the organisation and the organisation itself has an ethos of quality and sharing for improvement. Such an organisation endorses the belief that technical skills are not enough and that learning needs to be guided by processes and protocols (Wilkinson, Rushmer and Davis, 2004). In essence managers have to actively learn from experience to deal with the permanent turbulence of a complex organisation and agents have to adapt and reframe problems. In the clinical governance framework organisational learning has been identified as an essential part of quality since it is connected with personal and professional development (Staniland, 2007). Neither of these activities, however, were enacted in this study.

This study sought to make connections between the nurses' ability to provide quality care and the surrounding environment. It introduced clinical governance, as a framework to put the findings into perspective. Clinical governance and the juxtaposition of complexity science, however, is not promoted as a panacea for correcting 'wrongs' and 'making rights', but rather it was offered as an alternative perspective in understanding the hospital and the systems inherent in an organisation that might influence quality care. In this study complexity theory was used to gain insight and a deeper, understanding of the direct, intermediate and indirect factors affecting the nurses' ability to provide care, thereby gaining a sense of the whole organisational environment.

This study revealed a fuller understanding of the needs of Saudi Arabia ICU nurses to provide quality and safe standards of care. At an administrative level, this study will add to knowledge for the planning and development of strategies for continuous quality improvement. Clearly, from the previous summary there are

recommendations that could be enacted in a bid to adapt, modify and create strategies for the continual improvement of quality care in the ICU. These recommendations could also lead to better recruitment and retention of ICU nurses. The following section briefly suggests such recommendations.

Recommendations

The following recommendations have emerged from the findings of this study and are categorised into system-wide; health services level and ICU level.

At a system-wide level it is recommended that:

- The Saudi Arabian Ministry of Health investigates the appropriateness of adopting a clinical governance framework for health care organisations and further commissions a benchmark study to establish National priorities for quality in health care
- The Saudi Arabian Ministry of Health funds each Health Directorate to establish clinical governance positions that are responsible for leading and working in partnership on quality initiatives within each health region.

At a health service level it is recommended that:

- Each health service organization adopts a learning culture that is aligned to a clinical governance framework.
- Health services provide structured educational programs for clinicians to advance their knowledge of evidence-based best practice and for manager to develop leadership strategies appropriate to ICU settings.

- Health services investigate opportunities to work collaboratively with universities on developing and implementing post-basic ICU courses for nurses, taking into consideration the Saudi Commission for Health Specialties.

At an ICU level it is recommended that:

- Each ICU develops and implement structured orientation programs for new personnel.
- A staff development educator position is established in each ICU to manage the ongoing professional development for staff, including their educational preparation for the use of new technologies including elearning.
- Issues relevant to staffing allocation and resources availability are addressed by Unit managers to ensure quality of patient care in ICU settings.

It is further recommended that:

- Further research into the Quality Factors Conceptual Framework as described in this study and its relevance and application in diverse ICU settings of Saudi Arabia.

Limitation

The findings of this study must be considered within a context of certain limitations. As such they are context specific and must be interpreted taking into account the specific internal organisational influences and constraints that influence the nurses' ability to provide quality care. Additionally, they predicated on placing it in the wider organisational, social and political arena as well as the subjectiveness of the participants.

Saudi Arabia is in the midst of enormous change and crises, driven by economical and political interests of the countries that it borders. Thus, it is inevitable that variability exists between ICUs with differences in structure, practices and culture between Saudi Arabia and other countries. There has been recent acknowledgement nationally concerning the extreme importance of introducing quality assurance and patient safety to the Saudi Arabia health system. The study, however, was limited to one major regional hospital that was likely to represent other public hospitals in terms of its structure and operations.

This study was looking at factors that influence the quality of nursing care in an ICU within the Saudi Arabia context. The uniqueness of Saudi health care system is that citizens enjoy access to free health care, similar to many other countries such as UK and Qatar it reflects a curative medical model with prevention and promotion of health education taking second place. The literature reviewed suggested that physicians investigating the quality of care tend to pose questions related to factors affecting mortality and length of stay whilst nurses tended to explore much broader issues. Thus, this study might be limited in terms of medicine interpreting the significance of the findings.

Essentially, ICU nurses provide care for patients who are at their most vulnerable, however, the ability to provide quality care is influenced by factors outside of their control. This was the first in-depth study of factors influencing the quality of nursing care within an ICU context in Saudi Arabia. Caution is needed, however, in determining the transferability of western studies to other cultures and countries. The findings of this research are likely to have relevance to other ICU settings in regional Saudi Arabia and other Middle Eastern countries, where culture, conditions and issues of quality of care may be similar. As complexity science suggests a small change can affect long term behaviour.

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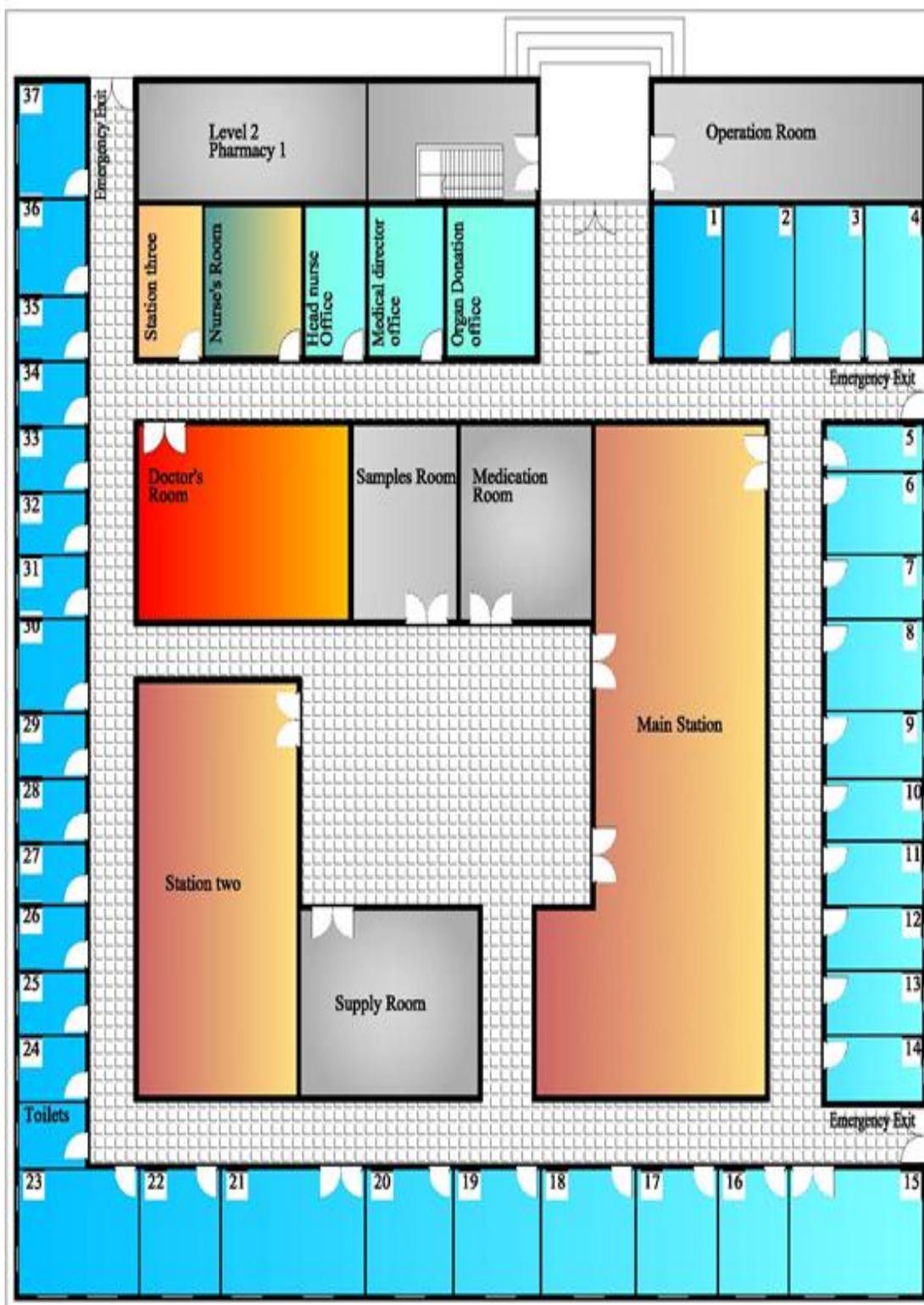
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LIST OF APPENDICES

APPENDIX A: INTENSIVE CARE LAYOUT



APPENDIX B: THE MOH ETHICAL APPROVAL OF THE STUDY

الرقم	 <p>وزارة الصحة Ministry of Health</p>	المملكة العربية السعودية
التاريخ		وزارة الصحة
المرفقات		الإدارة العامة للبحوث الطبية
الموضوع: المبتعث مشيعل العليانى		

المحترم

سعادة مدير عام الشؤون الصحية بالمنطقة الشرقية
السلام عليكم ورحمة الله وبركاته ،،،

نفيدكم أن المبتعث / مشيعل مشعل سابر العليانى مبتعث للدراسة بجامعة كرتن باستراليا للحصول على الدكتوراه في التمريض ومن متطلبات ذلك عمل دراسة عن (العوامل التي تؤثر على جودة الرعاية التمريضية في وحدات العناية المركزة في السعودية). وعليه قد تم عرض الدراسة على اللجنة العلمية للأخلاقيات الحيوية والطبية بالإدارة وقد وافقت عليها في اجتماعها بتاريخ 1429/7/26 هـ ورقم 1429717-26.

نأمل تسهيل مهمته علماً بأن الدراسة ستنفذ حسب البروتوكول المرفق في مستشفيات المنطقة الشرقية بدون أية التزام مادي من قبل الوزارة أو إخلال لسير العمل مع الالتزام بالضوابط الأخلاقية التي وضعتها اللجنة الوطنية للأخلاقيات الحيوية والطبية مع تزويدنا بصورة من التقرير النهائي.

ولسعادتكم جزيل الشكر والتقدير ،،،

مدير عام البحوث الطبية

د. فيصل بن محمد ابو ظهير

APPENDIX C: ICU NURSE PROFILE SURVEY

PROFILE SURVEY

Factors influencing the quality nursing care in an intensive care unit in Saudi Arabia

Dear participant, I would like to invite you to complete this survey. It will only take a few minutes of your time. Your response is important to find out what factors influence quality nursing care in the ICU.

1: What is your age (please tick)

- 20-30 31-40 41-50 51-60

2: What gender are you?

- Male Female

3: What is your nationality? (Please state)

4: What is your highest nursing qualification?

- General nursing certificate Diploma in Nursing
 Bachelor in Nursing Master's of Nursing
 Other _____

5: Where was your initial nursing education?

- Hospital Technical school/institute College University

6: Do you have international experience?

- Yes No

7: How many years of international nursing experience do you have?

- Less than 3 Years More than 3 years

8: How many years of intensive care experience do you have?

- None Less than 3 years More than 3 years

9: Do you have a post basic qualification in adult ICU nursing?

- Yes No

coding

Thank you for completing this survey and if you would like to be further involved by participating in an interview, please contact me on Mobile: 0555750029 or email: m.alalyani@postgrad.curtin.edu.au

Appendix D: INVITATION FOR NURSE PARTICIPANTS**Factors influencing the quality of nursing care in an intensive care unit in Saudi Arabia**

I am Mesheil ALALYANI, a registered nurse and PhD student completing a study on nursing care in ICU. I am seeking your assistance to complete a brief questionnaire and then to interview you regarding your working environment. If you are interested, or if you have questions, please contact me on the following telephone number.

Mobile: 0555750029

Email m.alalyani@postgrad.curtin.edu.au

APPENDIX E: SEMI-STRUCTURED INTERVIEW QUESTIONS

What attracted you to nursing in Saudi Arabia and to this hospital?
How did you come to work in the ICU?
What does quality nursing care mean to you?
What is the nurses' role in implementing quality patient care in the ICU?
What factors do you think affect nurses' ability to provide quality of nursing care?
Can you describe some of the satisfactions in nursing in this ICU?
What are some of the difficulties you have experienced in working in the ICU?
How is quality of nursing care monitored in the ICU ?
How do you communicate concerns or problems about patient care to others?
Do you have any comments about the equipment and other resources available?
What is your view of the ICU working environment?
What would you say about the quality of care in Saudi as compared with your previous experience in other ICU settings?
Is evidence based practice in use?

APPENDIX E (1): SEMI-STRUCTURED INTERVIEW QUESTIONS

How are the national quality standards being implemented?
What strategies are used in this hospital to develop quality of care?
What steps are taken to evaluate quality improvement and maintenance?
Do you have a specific policy on quality care in the ICU?
How are policy decisions made on matters related to quality patient care?
How is organisational accountability for quality client care managed in the ICU?
How are the policies for quality care in the ICU communicated to nursing staff?
What records are kept to monitor quality?
What factors do you think affect nurses' ability to provide quality nursing care?

APPENDIX F: ETHICS APPROVAL FROM CURTIN UNIVERSITY

12599147.

memorandum

To	Dr Carol Piercy, Nursing & Midwifery
From	A/Professor Stephan Millett, Chair, Human Research Ethics Committee
Subject	Protocol Approval HR 100/2008
Date	5 September 2008
Copy	Nursing & Midwifery Mesheil Alalyani Graduate Studies Officer, Faculty of Health Sciences



Office of Research and Development

Human Research Ethics Committee

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for your application submitted to the Human Research Ethics Committee (HREC) for the project titled "*Factors influencing quality of nursing care in an intensive care unit in Saudi Arabia*". Your application has been reviewed by the HREC and is **approved**.

- You are authorised to commence your research as stated in your proposal.
- The approval number for your project is **HR 100/2008**. Please quote this number in any future correspondence.
- Approval of this project is for a period of twelve months **05-08-2008 to 05-08-2009**. To renew this approval a completed Form B (attached) must be submitted before the expiry date **05-08-2009**.
- If you are a Higher Degree by Research student, data collection must not begin before your Application for Candidacy is approved by your Divisional Graduate Studies Committee.
- The following standard statement **must be** included in the information sheet to participants:
This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 100/2008). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or by emailing hrec@curtin.edu.au.

Applicants should note the following:

It is the policy of the HREC to conduct random audits on a percentage of approved projects. These audits may be conducted at any time after the project starts. In cases where the HREC considers that there may be a risk of adverse events, or where participants may be especially vulnerable, the HREC may request the chief investigator to provide an outcomes report, including information on follow-up of participants.

The attached **FORM B** should be completed and returned to the Secretary, HREC, C/- Office of Research & Development:

When the project has finished, or

- If at any time during the twelve months changes/amendments occur, or
- If a serious or unexpected adverse event occurs, or
- 14 days prior to the expiry date if renewal is required.
- An application for renewal may be made with a Form B three years running, after which a new application form (Form A), providing comprehensive details, must be submitted.

Regards,

A/Professor Stephan Millett
Chair
Human Research Ethics Committee

APPENDIX G: Participant Information Sheet

Factors Influencing the Quality of Nursing Care in an Intensive Care Unit in Saudi Arabia.

My name is Mesheil ALALYANI and I am currently completing a research study for my PhD degree at Curtin University of Technology. The purpose of this research is to explore what factors influence the quality of nursing care in the ICU context of this hospital. The knowledge gained from this research will contribute to maintaining continuous quality improvement of nursing care in Saudi Arabia. I am seeking to learn of your perspective and experiences in the ICU. For this purpose, I would like to interview you. The interview will be tape-recorded and will last 40-60 minutes. If you agree, then the interview will be at a time and location convenient for you.

Consent to participate

Your involvement in this research is entirely voluntary. You have the right to withdraw at any stage without it affecting you in any way. By signing the consent form, I assume that you have agreed to participate and will allow me to use the information you provide unless you decide to withdraw, or to withhold any information.

Confidentiality

The information you provide in the interview will be anonymous. Identifying information such as your personal details will not be recorded. Your consent form and information transcribed from the interview will be kept in a locked cabinet for five years, at which time it will be shredded. This process of confidentiality is in accordance with Curtin University policy. During the interview you may decline to answer any question and at any time you may request that the tape-recorder be switched off.

This research has been reviewed and given approval by Curtin University of Technology Human Research Ethics Committee (Approval number HR 100/2008) if you would like further information about the research, please do not hesitate to

contact me on my mobile 0555750029 or by email: m.alalyani@postgrad.curtin.edu.au Alternatively, you can contact my supervisor Dr Carol Piercey by email: c.piercey@curtin.edu.au . Also, if you have any concerns about the study is being conducted you may contact the Secretary of the Curtin Human Research Ethics Committee on +618 9266 2784.

**In anticipation, thank you for your willingness to be involved in this research.
Your participation is highly appreciated.**

Date: _____

Please contact me for further information if required.

Mesheil ALALYANI

Mobile: 0555750029

Email: m.alalyani@postgrad.curtin.edu.au

APPENDIX H: PARTICIPANT CONSENT FORM

Factors Influencing the Quality of Nursing Care in an Intensive Care Unit in Saudi Arabia

Participant statement

I (Print Full Name)

have read the information on the attached information sheet regarding this study titled '*Factors influencing the quality of nursing care in an intensive care unit in Saudi Arabia*'. The nature, purpose and intent of this study have been explained to me as well as the requirements of participation including the collection of field notes. I agree to have the interview tape recorded.

I have also been informed where to direct any future questions. I also understand that I can withdraw at any time without explanation or consequences. I understand that my anonymity, privacy and confidentiality are guaranteed. I voluntarily agree to participate in this study.

I am aware that information gathered from me for this study may be published and all names or any other identifying information will not be used.

Signature Telephone.....

Signature Researcher

Date

APPENDIX I: (sample) SCOPE OF SERVICE, FUNCTION & STRUCTURE

██████████ HOSPITAL QUALITY IMPROVEMENT DEPARTMENT	POLICY AND PROCEDURE
Title: Scope of Service, Function and propose & structure	Effective Date: 7/18/2007
Approved:	Applies: Quality Improvement Department
Prepared by: ██████████	Revised Date: after 3 years from date of effectivity

Summary:

The Quality Improvement Department is a support service that provides ongoing consultation services to all hospital departments. Consultative services relates to activities and functions such as Infection Control, Risk Management, Clinical Data Abstracting, Performance improvement and National Quality Standards

Scope:

As a support department, there is no direct contact with patients except for the Infection Control, Risk Management and patient satisfaction programs .The work may involve adults and geriatrics.

Services/Functions:

Quality Improvement Department functions and services are wide ranging and fluid, out focuses on several areas:

- Infection Control:
 1. Serves as a clinical and logistical support base for the ██████████ Infection Control Committee to aid the Committee in coordinating processes to reduce the risks of infection in ██████████
 2. Collect, analyze, report and maintain infection surveillance data
 3. Coordinates implementation of ██████████ Infection Control Committee recommendations, directives, etc.
 4. Report, when appropriate/necessary, information about infections both internally.
- Risk management:
 1. Serves as a technical and logistical support base for the ██████████ Environment of Care committee to aid the committee in coordinating processes to reduce risks of injury and/or loss at ██████████
 2. Collects, analyzes, reports and maintains data on submitted Incident Reports from throughout ██████████
- Clinical Data Abstracting :
 1. Serves as a technical and logistical support base for the Medical Staff Departments Divisions and Committees to aid in ongoing activities to measure, assess and improve both clinical and non clinical processes and the resulting patient outcomes.
 2. Collects, analyzes, reports and maintain data on clinical and non clinical variation from previously defined criteria.
 3. Conduct special studies as appropriate.

██████████ HOSPITAL QUALITY IMPROVEMENT DEPARTMENT	POLICY AND PROCEDURE
Title: Scope of Service, Function and propose & structure	Effective Date: 7/18/2007
Approved:	Applies: Quality Improvement Department
Prepared by: ██████████	Revised Date: after 3 years from date of effectivity

- Performance Improvement :

1. Serves as a technical and logistical support base for the ██████████ performance Improvement Committee (PIC) to aid the Committee and ██████████ organizational processes to measure, assess and improve organizational performance.
2. Coordinates PIC Team activities and coordinates implementation of PIC Team recommendations after endorsement by PIC.
3. Serves as a quality management resource to departments , committees ,etc to assist in more localized performance improvement efforts
4. Responsible for the hospital wide quality improvement activities.
5. Performs / conducts special studies and projects.
6. Submits reports quarterly or biannually for PIC review.
7. Collects and monitor the hospital wide reports by coordinating with department's head and/or supervisor

- National Standards and Indicator of Accreditation

1. Serves as primary "Organizational Contact with NSA.
2. Maintains NSA Standards and materials for hospital-wide reference.
3. Assist departments , activities, committees, etc. in awareness and understanding of activities related to the NSA
4. Coordinates and facilitates NSA Surveys
5. Coordinates follow-up on NSA recommendations.

- Educational Activities:

Provide planned training in CQI, TQM and Performance improvement topics as appropriate and/ required

Standards/Practice guidelines:

1. Ministry of Health (MOH) Regulations and Criteria
2. Saudi National Standards.

Staffing: (currently)

- Director, Quality Improvement Department
- QI Coordinator (partial time)
- Secretary

APPENDIX J: (sample) QUALITY of CARE

██████████ HOSPITAL QUALITY IMPROVEMENT DEPARTMENT	POLICY AND PROCEDURE
Title: QUALITY OF CARE	Effective Date: 7/24/2007
Approved: ██████████	Applies: ██████████ Hospital wide
Prepared ██████████	Effectivity: 3 years from date of effectivity

1) Policy:**Purpose:**

To assure that all health care services provided by ██████████ are delivered in a manner consistent with principles of professional practice and ethical conduct and reflect concern for costs involved.

Objectives:

- To utilize appropriate diagnostic procedures.
- To provide treatment consistent with the clinical impression of working diagnosis.
- To provide appropriate consultation of specialties by referral.
- To assure and verify patient compliance with treatment.
- To provide and assure continuity of care for all patients.
- To assure appropriate, accurate and complete medical record entries.
- To establish and maintain an adequate system for transfer of information when patients are transferred to and from other health care providers.
- To regularly evaluate patient satisfaction with all aspects of care provided.
- To assure accessibility and availability of health services.
- To direct patient to alternate care when service is not available in ██████████.
- To assure that all professional staff practices their profession in a legal and ethical manner.
- To assure that each patient receives proper instruction in the use of medication and therapies provided.
- To assure that the health services provided are relevant to the needs of the patients.
- To prevent duplicative diagnostic procedures.
- To assure the appropriateness of treatment frequency.
- To assure the utilization of ancillary services is consistent with patient needs.
- To assure utilization of least expensive alternative resources when appropriate.
- Absence of clinically unnecessary diagnostic and therapeutic procedures.

Responsibility and authority:

“The Director has primary responsibility and authority for implementation of these care standards. The Director shall delegate responsibility and authority to Quality Improvement Department and Quality Improvement Committee for operational evaluation of these standards.

Appendix K: (sample) RISK MANAGEMENT STANDARDS

██████████ HOSPITAL QUALITY IMPROVEMENT DEPARTMENT	POLICY AND PROCEDURE
Title : Risk Management	Effectivity Date: 7/22/2007
Approved:	Applies to: Quality Improvement Department
Prepared by: ██████████	Revised Date: after 3 years from date of effectivity

1) PURPOSE:

██████ maintains risk management policies designed to protect patients, visitors, employees and medical staff throughout the organization. The risk management policies involve measures to assure prudent clinical practice, appropriately prepared staff, facility and management of at-risk situations, which may develop.

2) INCIDENT REPORTS:

- A process for identification, reporting, analysis and prevention of adverse incidents by developing a system for completion, review and recommendations.
- Refer to Adverse Incident Reporting Policy in this Section of the manual.

3) RECORD KEEPING:

- The Director / or Head of the every department designates the clinicians conducting peer chart review to monitor quality of care and record keeping
- Records should be legible, in the format developed by the QI Committee
- Records shall be objective and detail the provider's judgment, diagnosis treatment, informed consent and patient education if applicable.

4) RELEASE OF INFORMATION:

- Patients' information are considered highly confidential, "only those who are directly involved in the patient's care" are allowed and access to the patients' information and file.

5) REPORTS:

- Health care providers receive copies of all laboratory, X-ray/ECG and appropriate reports.

6) FOLLOW UP:

- Recalls of patients for abnormal laboratory, X-rays or other need for follow up will be instituted as per policy.

7) REFERRALS:

- Clear policies and procedures of patients' referrals (within or to another hospital).

APPENDIX L: HOSPITAL MISSION, MISSION AND VALUES**HOSPITAL MISSION STATEMENT****MISSION:****XXXXX Hospital**

- Provides full specialized medical & surgical care for all the patient s.
- Provides high standard health services following the most advanced international health care technology

Vision:

- XXXX hospital following the policy & regulation of MOH to improve the quality health services.
- Concentrating about the services & patient satisfaction.
- Following the most recent diagnostic procedures to help the patient.
- Respect the patient & patient privacy.

Values:

- Caring about the prophylactic as well as the therapeutic services.
- Caring about the patient's privacy and safety.